



ARINDRA KUMAR DAS

*having satisfactorily completed the approved course of study and the
prescribed assessment has this day been awarded the degree of*

Master of Science

in

ICT Innovation

Date of award: 1 November 2015

A handwritten signature in black ink, appearing to read 'Michael Arthur', is placed over a horizontal line.

Professor Michael Arthur
President and Provost
University College London



Academic Transcript

Personal Information

Student: Arindra Kumar Das
Date of Birth: 03 February 1990 University Reference: 14100402/1 HESA Reference: 1411491004023
Qualification Sought: Master of Science FHEQ Level: M00

Programme Information

Teaching Institution: University College London Language of Instruction: English
Mode of Attendance: Full-time
Programme of Study: MSc ICT Innovation

Award Information

Qualification Awarded: Master of Science in ICT Innovation
Classification: Pass
Date of Award: 01 November 2015 Awarding Institution: University College London

Accredited Prior Learning

Description	UCL Credit Recognised
Exempted from 30 credits having completed equivalent study at the collaborating institution(s)"	30.00

Module Information

Academic Year	Module Code	Module Name	Result Mark	Grade	Attempts Completed
2014/15	COMPGI17B	Affective Computing and Human-Robot Interaction	59	P	1
	COMP GT99	MSc Dissertation	55	P	1
	MSING004	Entrepreneurship: Theory and Practice	64	P	1
	PSYCGI07	Design Practice	62	P	1
	PSYCGI13	Ergonomics for Design	59	P	1

END OF TRANSCRIPT

Transcript printed on 15 February 2016

This transcript, issued under the signature of the Registrar, UCL, is protected by tamper evident devices, and is not valid without a hologram positioned to the right of this text. Any queries should be directed to the issuing Office.




Wendy Appleby

Wendy Appleby – Registrar



EXAMENSBEVIS / DEGREE CERTIFICATE

Arindra Kumar Das

PERSONNUMMER / STUDENT IDENTIFICATION NUMBER

900203-T335

HAR AVLAGT / HAS BEEN AWARDED THE

Teknologie masterexamen

Degree of Master of Science (120 credits)

UTFÄRDAT / ISSUED

15 december 2016 / 15 December 2016

av rektor vid Kungliga Tekniska högskolan, KTH

by the President of KTH Royal Institute of Technology, Sweden

A handwritten signature in blue ink that reads 'Sigbritt Karlsson'. It is positioned over a faint, embossed watermark of the KTH logo.

Sigbritt Karlsson



EXAMENSBEVIS / DEGREE CERTIFICATE

Arindra Kumar DasPERSONNUMMER / STUDENT IDENTIFICATION NUMBER
900203-T335

har fullföljt masterprogrammet ICT Innovation och därmed i enlighet med högskoleförordningen (1993:100) om studier på avancerad nivå avlagt teknologie masterexamen inom huvudområdet informations- och kommunikationsteknik, 120 högskolepoäng, med följande betyg:

has, within the Master's Programme ICT Innovation and in accordance with the Swedish Higher Education Ordinance (1993:100) concerning studies at second cycle, been awarded the Degree of Master of Science (120 credits) with a major in Information and Communication Technology, with the following grades:

KURS COURSE		HP CREDITS	BETYG GRADE	DATUM DATE (Y-M-D)
II2202	Forskningsmetodik och vetenskapligt skrivande <i>Research Methodology and Scientific Writing</i>	7.5	A	2013-11-01
IC1007	Människa-dator interaktion: Principer och Design <i>Human-computer Interaction: Principles and Design</i>	7.5	B	2013-12-13
ME2072	Entreprenörskap för ingenjörer <i>Entrepreneurship for Engineers</i>	6.0	B	2013-12-17
DH2408	Utvärderingsmetoder inom människa-datorinteraktion <i>Evaluation Methods in Human-Computer Interaction</i>	6.0	A	2014-01-10
DT2140	Multimodala interaktioner och gränssnitt <i>Multimodal Interaction and Interfaces</i>	7.5	B	2014-01-19
DH2641	Interaktionsprogrammering <i>Interaction Programming</i>	6.0	B	2014-04-07
ME2073	Affärsutvecklingslabb <i>Business Development Lab of Entrepreneurship Engineers</i>	9.0	A	2014-06-19
ME2815	Affärsmodellen <i>Business Model Innovation</i>	7.5	B	2014-06-19
ME2078	Sommarskurs- Entreprenörskap för ingenjörer <i>Summer Course- Entrepreneurship for Engineers</i>	4.0	B	2014-07-15
DH2632	Människa-datorinteraktion, högre seminarier <i>Human-Computer Interaction, Research Seminars</i> Från University College London, Storbritannien From University College London, Great Britain	3.0	B	2016-06-27
	Affective Computing and Human-Robot <i>Affective Computing and Human-Robot</i>	12.0	Pass	2016-04-20
	Examensarbete, avancerad nivå <i>Degree Project, Second cycle</i>	30.0	Pass	2016-04-20
	Design Practice <i>Design Practice</i>	6.0	Pass	2016-04-20



EXAMENSBEVIS / DEGREE CERTIFICATE

Arindra Kumar Das

PERSONNUMMER / STUDENT IDENTIFICATION NUMBER
900203-T335

KURS COURSE	HP CREDITS	BETYG GRADE	DATUM DATE (Y-M-D)
Entrepreneurship: Theory & Practice <i>Entreprenörship: Theory & Practice</i>	6.0	Pass	2016-04-20
Ergonomics for Design <i>Ergonomics for Design</i>	6.0	Pass	2016-04-20

EXAMENSARBETETS TITEL / TITLE OF DEGREE PROJECT

Needs and challenges of informal carers caring for elderly people: Opportunities for Technology Design

Fordringarna för examen är därmed uppfyllda 27 juni 2016
Degree requirements have therefore been fulfilled 27 June 2016

Stockholm, Sweden

15 december 2016 / 15 December 2016

A handwritten signature in blue ink that appears to read 'Monica Askew'.

Monica Askew

KTH, Examen / Degree Office

1.5 högskolepoäng motsvarar en veckas heltidsstudier och 60 högskolepoäng motsvarar ett års heltidsstudier. 1 högskolepoäng motsvarar 1 ECTS credit.

1.5 credits represent one week of full-time studies and 60 credits are equivalent to one year of full-time studies. 1 credit is equivalent to 1 ECTS credit.

Betygsgraderna: A-Utmärkt, B-Mycket bra, C-Bra, D-Tillfredsställande, E-Tillräcklig.
The grading scale is: A-Excellent, B-Very Good, C-Good, D-Satisfactory, E-Sufficient.

Betygsgraderna vid University College London är: P/Pass, F/Fail, D/Distinction and CP/Condoned Pass.

The grading scale at University College London is: P/Pass, F/Fail, D/Distinction and CP/Condoned Pass.

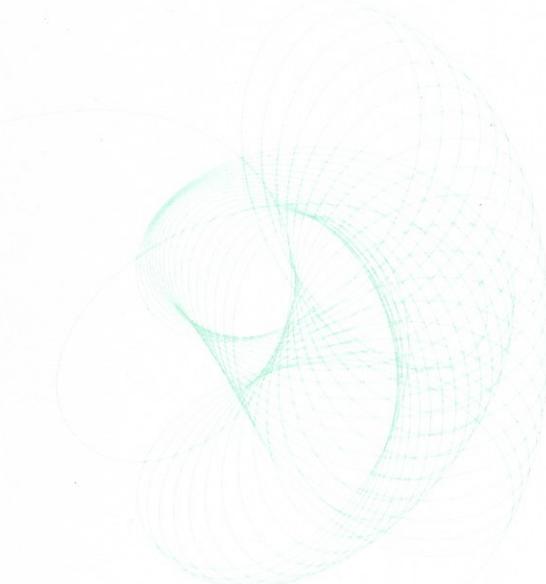
Behörighetskravet är en examen på grundnivå eller motsvarande om minst 180 högskolepoäng.

For admission the applicant must hold a Bachelor's degree, 180 credits or equivalent.

För verifiering av detta examensbevis kontakta examensgruppen på examen@kth.se
For a verification of this Degree Certificate contact the Degree Office at degreeoffice@kth.se

A!

**Aalto-yliopisto
Aalto-universitetet
Aalto University**



DEGREE CERTIFICATE
MASTER OF SCIENCE (TECHNOLOGY)

Arindra Kumar Das
030290-273K

has been awarded by the Aalto University School of Electrical Engineering the degree of Master of Science (Technology) as prescribed in the Government Decree on University Degrees (794/2004). The degree was completed in accordance with the Degree Programme in Communications Engineering in the major of Networking Technology. The degree is a higher university degree in technology.

11 May 2015

Keijo Nikoskinen
Dean

Olav Tirkkonen
Director of Degree Programme

This degree certificate has been issued in two original copies, one in English and the other in Finnish.

This degree certificate includes two appendices: the transcript of records lists the studies completed for the degree, and the Diploma Supplement for international use contains information on the university as well as on the degree completed, its level and status in the Finnish education system.



Degree Certificate Appendix
Transcript of Records
(1 / 4)

Name:
Identity number:
Student number:

Arindra Kumar Das
030290-273K
280082

Right to study towards the degree granted on:

28 April 2011

Degree awarded:
Degree programme:

Master of Science (Technology)
Degree Programme in Communications
Engineering
Networking Technology
Individual minor subject

Major:
Minor:

This transcript of records is an appendix to the degree certificate issued on 11 May 2015 for the above mentioned degree.

The graduate has completed the Master's Programme in Communications Engineering included in the Degree Programme in Communications Engineering.

SUMMARY OF DEGREE

	Credits, cr	Grade
Studies in major	68.00	4
Networking Technology		
Basic Module in Communications Engineering	25.00	
Intermediate Module in Networking Engineering	20.00	
Advanced Module in Major, Networking Engineering	23.00	
Studies in minor	20.00	4
Individual minor subject		
Individual Basic Module	20.00	
Elective studies	4.00	Pass
Master's thesis	30.00	4
Web-based real-time communication based collaboration: An evaluation study of the DataChannel		
Total credits:	122.00	
Weighted average grade:	4.07	
The degree was completed with distinction.		



Name:
 Identity number:
 Student number:

Arindra Kumar Das
 030290-273K
 280082

COURSES COMPLETED

Course	Credits	Grade	Date	Teacher
	dd.mm.yyyy			

Studies in major

Networking Technology

Basic Module in Communications Engineering

S-38.1146	Introduction to Performance Analysis	5.00	5	04.01.2012	Tuomas Tirronen
S-38.3001	Telecommunications Forum P	5.00	Pass	19.12.2011	Heikki Hämmänen
S-72.1130	Telecommunication Systems	5.00	4	11.02.2012	Timo Korhonen
T-110.5130	Mobile Systems Programming	5.00	4	07.06.2012	Sakari Luukkainen
T-76.3601	Introduction to Software Engineering	5.00	5	31.05.2013	Casper Lassenius

Credits in module: 25.00

Weighted average grade: 4.50

Grade: 5

Intermediate Module in Networking Engineering

S-38.2121	Routing in Communication Networks	4.00	3	10.01.2012	Nicklas Beijar, Raimo Kantola
S-38.2188	Communication Networks	5.00	5	13.01.2012	Jose Costa Requena
S-38.3115	Signalling Protocols	5.00	2	07.01.2013	Raimo Kantola
S-72.2211	Mobile Communication Systems and Services	4.00	3	06.03.2012	Olav Tirkkonen
T-110.6000	Internet and Computing Forum P Current Topics 2012	2.00	Pass	31.05.2012	Antti Ylä-Jääski

Credits in module: 20.00

Weighted average grade: 3.28

Grade: 3

Advanced Module in Major, Networking Engineering

S-38.3120	Seminar on Communications and Networking	5.00	5	20.12.2012	Markku Liinaharja
S-38.3133	Networking Technology, laboratory course B	3.00	4	26.12.2012	Juha Järvinen
S-38.3138	Networking Technology, special assignment	6.00	4	28.11.2012	Juha Järvinen
S-38.3153	Security of Communication Protocols	4.00	4	06.09.2012	Markus Peuhkuri
S-38.3194	Wireless Networks	5.00	4	07.09.2012	Jukka Manner

Credits in module: 23.00

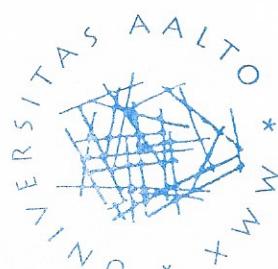
Weighted average grade: 4.22

Grade: 4

Total credits: 68.00

Weighted average grade: 4.03

Grade: 4



Name: Arindra Kumar Das
 Identity number: 030290-273K
 Student number: 280082

Course	Credits	Grade	Date dd.mm.yyyy	Teacher
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Studies in minor

Individual minor subject

Individual Basic Module

20087	Common Advanced Workshop/Project at the Department of Media PACK-AGE: Interdisciplinary Packaging Design Project	6.00	4	08.06.2012	Markus Joutsela
S-38.3062	Modelling Human Behaviour P	5.00	5	09.03.2012	Kalevi Kilkki
T-121.5850	Individual Course on Usability P User Study of an Assessment Tool for Sports Training	4.00	Pass	27.06.2013	Marko Nieminen
TU-91.2008	New Venture Development II: Business Plan	5.00	4	13.06.2012	Peter Kelly

Total credits: 20.00

Weighted average grade: 4.31

Grade: 4

Elective studies

Kie-98.7009	Get to know Finland	1.00	Pass	16.03.2012	Milka Toikko
S-0.1600	Introduction to Studies at AaltoELEC	1.00	Pass	19.01.2012	Raimo Kantola
T-106.1004	IT Services on Aalto Otaniemi campus	2.00	Pass	05.10.2011	Aura Paloheimo

Total credits: 4.00

Weighted average grade: -

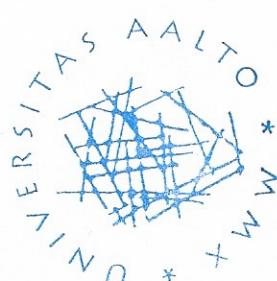
Grade: Pass

Master's thesis

S-38.D	Master's Thesis Web-based real-time communication based collaboration: An evaluation study of the DataChannel	30.00	4	31.03.2014	Jörg Ott
S-38.K	Maturity Test		Pass	18.06.2013	Jörg Ott

Total credits: 30.00

Grade: 4



Name:
Identity number:
Student number:

Arindra Kumar Das
030290-273K
280082

11 May 2015

Suvi Lähteenmäki

Suvi Lähteenmäki
Registrar

Aalto University
P.O.Box 11000
FI-00076 AALTO, Finland
<http://www.aalto.fi/>

The extent of the degree is 120 credits and, on average, it takes two years of full-time study to complete the degree.

The extent of studies is measured in credits (cr). The average number of hours required in one academic year of studies, 1 600 hours, corresponds to 60 credits. The credit system complies with the European Credit Transfer and Accumulation System (ECTS).

The courses and study modules are graded either on a scale of 5 (highest), 4, 3, 2, 1 or Pass / Fail.

Those courses which are graded 5, 4, 3, 2 and 1 are included in the credit-weighted average grade. Average grade has been calculated if the group includes at least two courses graded on a scale of 1-5 or the extent of the course/s graded on a scale of 1-5 is at least half of the extent of the group. If this provision is not met, average grade is not calculated. The average grades have been rounded to two decimals.

The master's degree may be awarded with distinction if the credit-weighted average grade of the courses included in the degree, excluding the master's thesis, and the grade of the master's thesis are at least 4.0.

