



Examensbevis/Degree Certificate

Lars Viebke

har avlagt

Teknologie magisterexamen

has been awarded the

Degree of Master of Science

utfärdat/issued

25 juni 2009

av rektor vid Kungliga Tekniska högskolan, KTH
by the President of the Royal Institute of Technology, Sweden

Peter Gudmundson



Examensbevis
Degree Certificate

Lars Viebke

760415-0354

har i enlighet med högskoleförordningen (1993:100), avlagt teknologie magisterexamen inom huvudområdet maskinteknik, 201 poäng/301,5 högskolepoäng, med följande betyg:

has, in accordance with the Swedish Higher Education Ordinance (1993:100), been awarded the Degree of Master of Science with a major in Mechanical Engineering, 201 credits/301,5 higher education credits, with the following grades:

Kurs <i>Subjects</i>	Poäng <i>Credits</i>	Högskole- poäng <i>HE Credits</i>	Betyg <i>Grade</i>	Datum <i>Date</i>
Examensarbete inom lättkonstruktioner <i>Master's Project in Lightweight Structures</i>	20.0	30.0	Godkänd* <i>Pass*</i>	17 apr 2008
Examinator: Bitr Univ lektor/Assistant Professor Malin Åkermo				
CAD 3D-modellering och visualisering för PC <i>CAD 3D-modelling and Visualization for Personal Computers</i>	4.0	6.0	Fem <i>Five</i>	1 feb 2005
Fiberkompositer I, material och processer <i>Fibre Composites I, Materials and Processes</i>	4.0	6.0	Fem <i>Five</i>	16 nov 2004
Fördjupningsprojekt inom maskinteknik Fiberkompositlaminering - handbok kring konstruktion med fiberarmerade härdplaster <i>Advanced Project in Mechanics</i> <i>Fibre composite lamination - handbook about design with fibre reinforced thermoset plastics</i>	4.0	6.0	Fem <i>Five</i>	13 aug 2003
Konstruktionsmaterial ¹ <i>Engineering Materials</i>	5.0	7.5	Fem <i>Five</i>	3 jun 2004
Konstruktionsmetodik ¹ <i>Design Methods</i>	4.0	6.0	Fem <i>Five</i>	30 aug 2005
Konstruktionsteknik ¹ <i>Design and Technology</i>	11.0	16.5	Fyra <i>Four</i>	7 jun 2004
Lättviktsdesign <i>Lightweight Design</i>	10.0	15.0	Fem <i>Five</i>	20 jun 2005
Produktionsteknik, allmän kurs ¹ <i>Production Engineering, General Course</i>	7.0	10.5	Fyra <i>Four</i>	8 jun 2004



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Produktionsteknik, fortsättningskurs II ¹ <i>Manufacturing, Advanced Course II</i>	6.0	9.0	Fyra <i>Four</i>	19 dec 2003
Produktutveckling ¹ <i>Product Development</i>	6.0	9.0	Fem <i>Five</i>	25 aug 2004

¹ Kursen ingår även i av KTH tidigare utfärdad examen

¹ *The course is also included in previous degree, issued by KTH (Royal Institute of Technology), Sweden*

Examensarbetets titel
Title of Master's Project

Utveckling av eye-tracker - design,
konstruktion och produktionsanpassning av
monitor i kolfiberkomposit och lättmetall med
inbyggd blickfångningsutrustning - från idé
till produkt
*Development of an eye-tracker - design, construction
and preproduction engineering of a monitor in
carbon fibre composite and light metals with built-in
eye-tracking device - from a concept to a product*

Tillgodoräknanden/External credits

Enligt antagningsenhetens beslut ingår i examen utöver ovanstående, vissa tillgodoräknade utbildningsmoment motsvarande 120 poäng/180 högskolepoäng från tidigare examen "högskoleingenjörsexamen", utfärdad av KTH.

Based on decision by the Admissions office an equivalent of 120 credits/180 higher education credits have been included which were earned during studies for the Degree "Bachelor of Science in Engineering" issued by KTH (Royal Institute of Technology), Sweden.



Examensbevis
Degree Certificate

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760415-0354

Fordringarna för examen är därmed uppfyllda
Degree requirements have therefore been fulfilled

3 april 2009
3 April 2009

Stockholm, Sweden 25 juni 2009

Kiki J:son Lindh

KTH, Examen/Degree Administration Office

1.5 högskolepoäng representerar en veckas heltidsstudier och 60 högskolepoäng svarar mot ett års akademiska heltidsstudier. 1.5 högskolepoäng motsvarar 1.5 ECTS poäng.

1.5 higher education credit (HE Credit) represents one week of full-time study and 60 higher education credits is the equivalent of one academic year of full-time study. 1.5 HE credit is equivalent to 1.5 ECTS credit.

För kurser som påbörjats före 1 juli 2007 är betygsgraderna: Fem (5) Med beröm godkänd, Fyra (4) Icke utan beröm godkänd eller Tre (3) Godkänd

For courses before 1 July 2007 the grading scale is: Five (5) Pass with Distinction, Four (4) Pass with Honours or Three (3) Pass

För kurser som påbörjats efter 1 juli 2007 är betygsgraderna: A-Utmärkt, B-Mycket bra, C-Bra, D-Tillfredsställande, E-Tillräcklig

For courses after 1 July 2007, the grading scale is: A-Excellent, B-Very Good, C-Good, D-Satisfactory, E-Sufficient

Om endast betyget Godkänd ges markeras detta med en asterisk (*).

If the Pass Grade only is awarded, this is marked with an asterisk ().*

I examensbevis, som utfärdas efter 1 juli 2007, redovisas resultat i högskolepoäng.

In Degree Certificates, issued from 1 July 2007, results are marked with higher education credits (HE Credits).

I examensbevis, som innehåller kurser påbörjade före 1 juli 2007, redovisas resultat i såväl högskolepoäng som poäng.

In Degree Certificates, including courses attended before 1 July 2007, results are marked with credits as well as higher education credits (HE Credits). (One credit represents one week of full-time study and 40 credits one academic year of full-time study.)

For a verification of this Degree Certificate contact the Degree Administration Office at examen@kth.se



DIPLOMA SUPPLEMENT

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 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 judgement, 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: Viebke
- 1.2 Given name: Lars
- 1.3 Date of birth (day/month/year): 15 April 1976
- 1.4 Civic registration number: 760415-0354

2. INFORMATION IDENTIFYING THE QUALIFICATION

- 2.1 Date of issue: 25 June 2009
- 2.2 Name of qualification and (if applicable) title conferred (in original language):
Teknologie magisterexamen inom huvudämnet maskinteknik.
- 2.3 Name of qualification and (if applicable) title conferred in official translation to English:
Master of Science with a major in Mechanical Engineering.
- 2.4 Main field(s) of study for the qualification: Mechanical Engineering.
- 2.5 Name (in original language) and status of awarding institution:
Kungliga Tekniska högskolan (state higher education institution with status of university)
- 2.6 Name (in original language) and status of institution (if different from 2.5) administering studies:
Not applicable.
- 2.7 Language(s) of instruction: Swedish.

3. INFORMATION ON THE LEVEL OF THE QUALIFICATION

- 3.1 Level of qualification: For more information on higher education in Sweden, please go to point 8, appendix 2.
- 3.2 Official length of programme: 60 credits/90 higher education credits (90 ECTS). The scope of undergraduate education shall be stated in accordance with a credit system, where each credit corresponds to one week's full-time study.

- 3.3 Access requirement(s): 1) A Bachelor's degree (or a degree equivalent of 120 credits) from an institution of higher education in science, engineering or other discipline related to the major subject of the programme applied to. The main subject of the Bachelor's degree must have been studied in depth for at least 1.5 year and the degree must also include a degree project corresponding to approximately 10 weeks of full-time work. 2) Previous engineering studies (in Sweden or abroad) in a discipline relevant to the major subject of the Master's programme applied to, equivalent to at least three years of full-time studies at a Swedish university of technology, towards the Swedish degree 'Civilingenjör'

4. INFORMATION ON THE CONTENTS AND RESULTS GAINED

4.1 Mode of study: Full-time equivalent.

4.2 Degree requirements:

Higher Education Ordinance (1993:100)

Master of (Magisterexamen med ämnesdjup)

Scope

A Master of (Magisterexamen med ämnesdjup) shall be obtained after completing the course requirements of at least 160 credit points. Advanced studies are required in the main subject at the 80-credit point level, with passing grades.

Objectives

The general objectives set out in chapter 1, section 9 of the Higher Education Act and the objectives determined by the institution of higher education concerned.

Miscellaneous

In order to receive a degree of Master (Magisterexamen med ämnesdjup), the student shall have completed an independent project (degree project) of at least 20 credit points or two such projects of at least 10 credit points each. This project (these projects) shall be part of the main subject studied. Credit may be given for 40 credit points from doctoral studies in the main subject.

The main specialisation of the degree shall be stated in the degree certificate.

Local Regulations

A Master's Degree with advanced subject studies (Teknologie magisterexamen) may be awarded within the main subject areas established by the Royal Institute of Technology (KTH). The degree is entitled "Master of Science with a major in ...", ("Teknologie magisterexamen inom huvudämnet...") where the major subject is stated. In certain individual cases other wording may be used, all decisions concerning these special cases to be made by the President of KTH.

A Master's Degree with advanced subject studies requires:

Completed course credits of at least 160 credits which include

- 80 credits for advanced studies within the major subject, of which at least 20 credits were awarded for studies at advanced level (C level) and 10 credits were awarded for studies at specialised level (D level).

Degree project within major subject: 20 credits at specialised level (D level) or two projects of 10 + 10 credits of which one thesis at specialised level (D level) and the other at a minimum of advanced level (C level) within the major subject.

credits must have been awarded within the major subject. The thesis must always be examined by KTH.

The programme for a Master's Degree with advanced subject studies may be established by the President of KTH. These programmes normally encompass 60 credits and will be designed so that the requirements for awarding the Master's Degree with advanced subject studies can be fulfilled by all students who follow the programme.

- 4.3 Programme details (e.g. modules or units studied), and the individual grades/marks/credits obtained: See degree certificate/Official transcript.
- 4.4 Grading scheme and, if available, grade distribution guidance: See Degree Certificate/Official Transcript.
- 4.5 Overall classification of the qualification (in original language): Not applicable for Swedish degrees.

5. INFORMATION ON THE FUNCTION OF THE QUALIFICATION

- 5.1 Access to further study: The degree gives access to postgraduate training.
- 5.2 Professional status (if applicable): No special information is indicated; gives access to employment.

6. ADDITIONAL INFORMATION

- 6.1 Additional information: The duration of the programmes is normally one and a half year; two terms of course work and one term of final degree project/Master's thesis.
- 6.2 Further information sources:

Kungliga Tekniska högskolan, SE-100 44 Stockholm, <http://www.kth.se>

National Agency for Higher Education, The Swedish ENIC/NARIC office,
Box 7851, SE – 103 99 Stockholm, <http://www.hsv.se>

7. CERTIFICATION OF THE SUPPLEMENT

7.1 Date: 25 June 2009

7.2 Signature and official stamp or seal (if used)


Kiki J:son Lindh



7.3 Capacity: Official Responsible for Degrees

8. INFORMATION ON THE NATIONAL HIGHER EDUCATION SYSTEM

(The following description is approved by the National Agency for Higher Education)

GENERAL

Higher education institutions have great autonomy in the organisation of studies, use of resources and general administration. The Government may award the status of university to higher education institutions that meet certain criteria. Independent higher education providers may be recognised by the Government, obtain the right to award degrees and receive state subsidies. Diplomas from all higher education institutions that are recognised by the Government have equal official value. The same law governs all state higher education institutions. All Swedish degrees are issued in accordance with the same degree ordinance.

QUALITY ASSURANCE

The Swedish National Agency for Higher Education is responsible for quality evaluation.

All programmes and major subjects have been evaluated during the six-year period 2001-2007. The Swedish National Agency for Higher Education has also completed two rounds of quality audits of higher education institutions. Evaluation reports are public.

ACCESS AND ADMISSION TO HIGHER EDUCATION

Higher education at all levels has two strata of eligibility: general/basic and (additional) specific requirements. General eligibility to the first level is the same for all higher education. General eligibility is attained either by a) completing an upper-secondary school programme and obtaining a Pass grade or better in courses comprising at least 90 percent of the credits required for the programme, or b) having the potential to benefit from the education, by virtue of other education, practical experience or other circumstances. People who are at least 25 years old, who have been employed for four years and have a command of English and Swedish corresponding to that obtained by completing a national upper-secondary programme are also considered to have general eligibility. The specific requirements vary according to the field of higher education and are expressed in terms of upper-secondary school qualifications in specific subjects. Restricted admission is used for all study programmes and courses.

ENTITLEMENT TO AWARD DEGREES

The Swedish National Agency for Higher Education decides which state institutions may grant permission to award degrees at the first and second level. All state higher education institutions may award general degrees at the first level and magisterexamen. General permission to grant masterexamen and degrees at the third level may be given to higher education institutions in the fields in which they are permitted to offer the third level degrees. Other institutions may be permitted to award masterexamen after appraisal and official recognition of their academic standards.

There are no general rules for permission to grant professional degrees. The Swedish National Agency for Higher Education is responsible for giving permission to award professional degrees after reviewing applications to do so.

DEGREES

Higher education in Sweden is divided into three levels; the first, second and third. All degrees are awarded at one of these levels. Higher education at the first and second levels is provided in the form of courses. Courses may be grouped together into programmes with varying levels of individual choice. Students themselves are also able to combine different

courses towards a degree. A course syllabus is required for each course at the first and second level and a curriculum for each degree programme. Educational level and intended learning outcomes have to be specified for each course. Sweden has a system of higher education credits (högskolepoäng); a normal 40-week academic year corresponds to 60 higher education credits. The system is compatible with ECTS credits.

In the Degree Ordinance, the Government has laid down which degrees may be awarded and the objectives as well as intended learning outcomes for these degrees. In the Swedish higher education system there are generally no intermediate qualifications. All degrees are regarded as final qualifications, even if there is a possibility to continue studying. Degrees are divided into general degrees and professional degrees. Translations into English of all degree names are regulated at the national level. An institution of higher education may decide that a discipline precedes a degree name e.g. *filosofie kandidatexamen* or *medicine doktorexamen* or/and add a major subject/field of studies e.g. *civilingenjörsexamen i maskinteknik*.

GENERAL DEGREES

FIRST LEVEL:

1. *Högskoleexamen* (University Diploma) requires 120 higher education credits and a diploma project. The corresponding degree in artistic disciplines is *konstnärlig högskoleexamen* (University Diploma in).
2. *Kandidatexamen* (Degree of Bachelor) requires 180 higher education credits with a defined main field of studies determined by each higher education institution itself. At least 90 higher education credits with increasingly in-depth studies including a diploma project of 15 higher education credits have to be completed in the main field of study. The corresponding degree in artistic disciplines is *konstnärlig kandidatexamen* (*Degree of Bachelor of Arts in*).

SECOND LEVEL:

1. *Magisterexamen* (Master's Degree - One Year) requires 60 higher education credits with a defined main field of studies. At least 30 credits have to be completed in the main field of study including a thesis of 15 credits. In addition, normally the student must hold either a *kandidatexamen* or a professional degree of at least 180 higher education credits or an equivalent foreign degree. *Konstnärlig magisterexamen* (Degree of Master of Arts - One Year) is awarded in artistic disciplines.
2. *Masterexamen* (Degree of Master (Two Years)) requires 120 higher education credits with a defined main field of studies. At least 60 credits have to be completed in the main field of study including a thesis of 30 credits. In addition, in general, the student must hold either a *kandidatexamen* or a professional degree of at least 180 higher education credits or an equivalent foreign degree. *Konstnärlig masterexamen* (Degree of Master of Arts (Two Years)) is awarded in artistic disciplines. The most advanced courses for Masterexamen may be accepted as partial fulfilment of the requirements for a doctoral programme.

General admission requirements to general degrees or degrees in arts at the second level are: degree at the first level of at least 180 higher education credits or a corresponding foreign degree. In addition, admission may be granted to an applicant who has the potential to benefit from the education, by virtue of other educational achievements, practical experience or other circumstances.

PROFESSIONAL DEGREES:

Professional degrees are awarded in the fields of engineering, health care, agriculture, law, education, etc. Professional degrees may be awarded at either the first or the second level. With a few exceptions, general entry requirements to professional degrees are the same as to the first level. There are about 40 professional degrees. Programmes

leading to professional degrees vary in length depending on their character.

THIRD LEVEL:

The Faculty Board decides which subjects may be offered at the third level. For every subject, a general study plan should be drawn up and approved by the Faculty Board. The study plan must state the principal organisation of the studies, the specific admission requirements, the examinations required towards the degree and whether the study programme may end with the award of a *licentiatexamen*.

Two degrees are offered in the third level:

1. *Licentiatexamen* (Degree of Licentiate) requires at least 120 higher education credits including a thesis of at least 60 credits. The Faculty Board may also decide that a *licentiatexamen* can be awarded as an intermediate degree towards *doktorsexamen*.

A person who met general requirements for admission before 1 July 2007 should be considered as eligible for admission until 30 June 2015.

2. *Doktorsexamen* (Degree of Doctor) requires 240 higher education credits including a thesis of at least 120 credits. The thesis has to be defended publicly.

Admission requirements to the third level are:

The applicant has to be deemed to have ability to benefit from the education.

General requirements to the third level are: 1. a second level degree or 2. completed course requirements of at least 240 higher education credits of which 60 credits at the second level or 3. equivalent level of knowledge acquired in Sweden or abroad.

Transitional provisions: 1 July 2007 should be considered as eligible for admission until 30 June 2015.

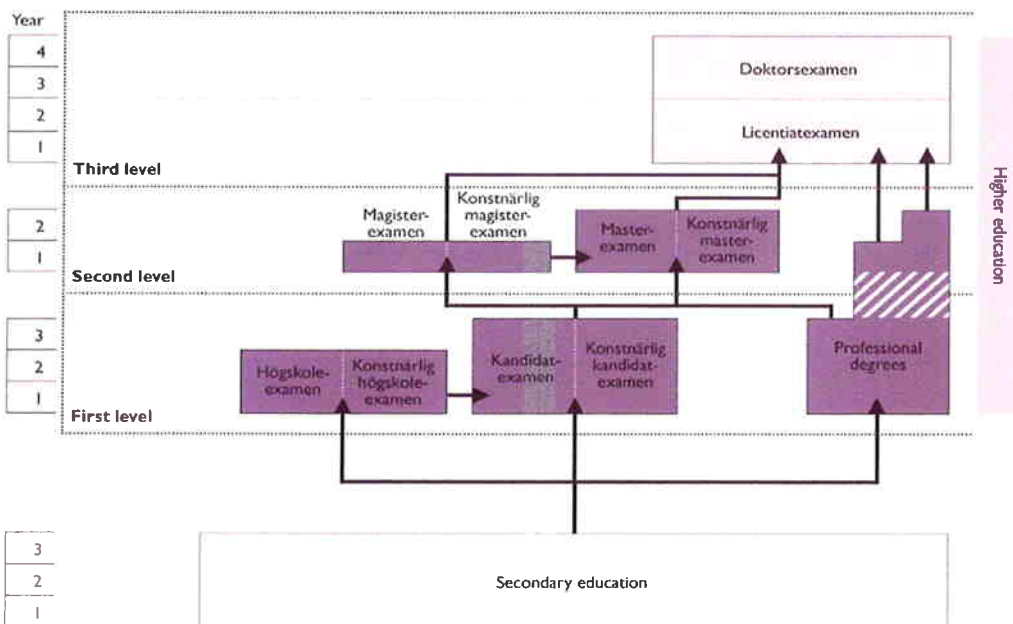
The general requirements before 1 July 2007 were:

- 1. completed undergraduate programme of at least 120 credits (equivalent to 180 higher education credits) or
- 2. largely equivalent knowledge acquired in some other system in this country or abroad.

GRADING

The Higher Education Ordinance states that the following grades may be awarded: Pass with Distinction (*väl godkänd*), Pass (*godkänd*) or Fail (*underkänd*) unless the institution decides to grade on some other scale. A number of courses use only two grades: Pass or Fail. Others, for example in Law and Engineering, traditionally use scales with several levels - expressed as letters or numbers. No overall grade is given for a degree and students are not ranked.

THE SWEDISH HIGHER EDUCATION SYSTEM HSVFS 2007:5



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