

Teknologie doktorsexamen i ämnet sportteknologi och kvalitetsteknik

Doctor of Philosophy in Sports and Quality Technology

Leonid Kuzmin

Namn
Name

580129-1237

Personnummer
Civic registration number


har i enlighet med bestämmelserna i högskoleförordningen (1993:100)
uppfyllt fordringarna för att erhålla examensbevis med benämningen
Teknologie doktorsexamen i ämnet sportteknologi och kvalitetsteknik på forskarnivå
med i bilagan nämnda vitsord.

*has satisfied the requirements as prescribed by the regulations of the Higher Education Ordinance (1993:100)
and has been awarded the Doctor of Philosophy in Sports and Quality Technology at third cycle
with the grades specified in the attached appendix.*

Datum för bevis
Date of issue

Mittuniversitetet 30 juni 2010

På tjänstens vägnar
On official business



Anders Söderholm
Rektor
Vice Chancellor

EXAMENSBEVIS

Leonid Kuzmin

580129-1237

2010-06-30

Namn
Name

Personnummer
Civic registration number

Datum för bevis
Date of issue

har fått betyg över följande prov och i enlighet med bestämmelserna i högskoleförordningen (1993:100) erhållit
has completed the following examinations and in accordance with the regulations of the Higher Education Ordinance (1993:100) been awarded the

Teknologie doktorsexamen i ämnet sportteknologi och kvalitetsteknik
Doctor of Philosophy in Sports and Quality Technology

Prov <i>Examination</i>	Högskolepoäng <i>Credits</i>	Datum <i>Date</i>
Optimal design ¹ <i>Optimum Design¹</i>	7.5	2004-12-20
Tillämpad matematik ¹ <i>Applies Mathematics¹</i>	7.5	2004-12-20
Anatomi och idrottsmorfologi ¹ <i>Human Anatomy and Sports Morphology¹</i>	15.0	2005-06-03
Biomekanik ¹ <i>Biomechanics¹</i>	15.0	2005-06-03
Pedagogik ¹ <i>Pedagogics¹</i>	7.5	2005-06-03
Vetenskapligt skrivande inom naturvetenskap och teknik ¹ <i>Scientific Writing in Natural and Engineering Sciences¹</i>	1.5	2005-06-03
Matematik, statistik och datoranvändning ¹ <i>Mathematics, Statistics and Computersimulations¹</i>	15.0	2007-05-22
Försöksplanering och robust konstruktion <i>Design of Experiments and Robust Design Methodology</i>	7.5	2009-05-08
Sportteknologi och kvalitetsteknik, litteraturkurs I <i>Research Literature I in Sports and Quality Technology for PhD-students</i>	7.5	2009-10-08
Sportteknologi och kvalitetsteknik, litteraturkurs II <i>Research Literature II in Sports and Quality Technology for PhD-students</i>	7.5	2009-10-08
Sportteknologi och kvalitetsteknik, litteraturkurs <i>Research Literature in Sports and Quality Technology for PhD-students</i>	1.5	2010-06-14
Avhandling <i>Thesis</i>	155.0	2010-06-15
Totalsumma <i>Total sum</i>	248.0	

Datum för avslutade studier: 2010-06-15

Date of completion of studies: 15 June 2010



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Agneta Sundvisson

Examenshandläggare
Administrative Examination Officer

Bilaga till examensbevis
Appendix to Degree Certificate

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Leonid Kuzmin

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2010-06-30

Datum för bevis
Date of issue

Denna examen omfattar normalt 240 högskolepoäng, men eftersom proven valts så att de omfattar fler poäng än normalt är totalsumman i denna examen 248 högskolepoäng.

This degree normally comprises 240 credits, but since the examinations taken comprise more credit points than normally the total sum of this degree is 248 credits.

Avhandlingens titel/*Title of thesis:*

Interfacial Kinetic Ski Friction

Huvudhandledare/*Principal Supervisor:*

Docent Mats Tinnsten

¹ Provet är tillgodoräknat från Luleå tekniska universitet.

¹ *The examination is credited from Luleå University of Technology, Sweden.*



Agneta Sundvisson

Examenshandläggare

Administrative Examination Officer

Betyg/Grade

För prov ges endast betyget Godkänd.

Examinations are only graded as Pass.

Omfattning/The length of the examination

Prov påbörjat före 2007-07-01 är genomgånget i poäng varvid en poäng motsvarar en veckas heltidsstudier eller en och en halv ECTS-poäng.

Provet har konverterats till högskolepoäng i examensbeviset (se nedan om högskolepoäng).

An examination started before 1 July 2007 is taken in credit points of which one credit point is equivalent to one week of full-time studies or one and a half ECTS credits. The examination is converted to credits in the degree certificate (see below about credits).

Prov påbörjat 2007-07-01 eller senare är genomgånget i högskolepoäng där heltidsstudier under ett normalstudieår om 40 veckor motsvarar 60 högskolepoäng eller 60 ECTS-poäng.

An examination started on 1 July 2007 or after that date is taken in credits of which a 40-week academic year of full-time studies is equivalent to 60 credits or 60 ECTS credits.



DIPLOMA SUPPLEMENT

This Diploma Supplement follows the model developed by the European Commission, Council of Europe and UNESCO/CEPES. The purpose of the supplement is to provide sufficient independent data to improve 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 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 names:** Kuzmin
- 1.2 **Given names:** Leonid
- 1.3 **Date of birth (day/month/year):** 29 January 1958
- 1.4 **Student identification number or code (if available):** 580129-1237

2. Information identifying the qualification

- 2.1 **Name of qualification and (if applicable) title conferred (in original language):** Teknologie doktorexamen i ämnet sportteknologi och kvalitetsteknik
- 2.2 **Main field(s) of study for the qualification:** Sports and Quality Technology
- 2.3 **Name and status of awarding institution (in original language):** Mittuniversitetet, (state higher education institution with status of university). The university is a multi-campus university with centres in Härnösand, Sundsvall and Östersund.
- 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:** Mainly English.

3. Information on the level of the qualification

- 3.1 **Level of qualification:** Third cycle qualification, 4 years. For more information on higher education in Sweden, please go to point 8.
- 3.2 **Official length of programme:** 240 credits. The extent of the education is denoted by credits, with full-time study during a normal academic year of 40 weeks corresponding to 60 credits.



3.3 Access requirement(s):

The requirements for admission to third-cycle courses and study programmes are that the applicant:

- meets the any general and specific entry requirements that the faculty board may have laid down, and
- is considered in other respects to have the ability required to benefit from the course or study programme.

A person meets the general entry requirements for third-cycle courses and study programmes if he or she:

- has been awarded a second-cycle qualification
- has satisfied the requirements for courses comprising at least 240 credits of which at least 60 credits were awarded in the second-cycle, or
- has acquired substantially equivalent knowledge in some other way in Sweden or abroad.

The faculty board may permit an exemption from the general entry requirements for an individual applicant, if there are special grounds.

The specific entry requirements laid down shall be essential for students to be able to benefit from the course or study programme. These requirements may comprise:

- knowledge from one or more higher education courses and study programmes or corresponding courses and study programmes
- specific professional or vocational experience, and
- requisite language skills or other conditions determined by the course or study programme.

4. Information on the contents and results gained

4.1 Mode of study: Full-time equivalent.

4.2 Programme requirements:

CENTRAL REGULATIONS

Scope

A Doctor of Philosophy is awarded after the student has completed a study programme of at least 240 credits in a subject in which third-cycle teaching is offered.

Outcomes

Knowledge and understanding

For the degree of Doctor of Philosophy the third-cycle student shall have:

- demonstrated broad knowledge and systematic understanding of the research field as well as advanced and up-to-date specialised knowledge in a limited area of this field, and
- demonstrated familiarity with research methodology in general and the methods of the specific field of research in particular.

Competence and skills

For the degree of Doctor of Philosophy the third-cycle student shall have:

- demonstrated the capacity for scholarly analysis and synthesis as well to review and assess new and complex phenomena, issues and situations autonomously and critically
- demonstrated the ability to identify and formulate issues with scholarly precision critically, autonomously and creatively, and to plan and use appropriate methods to undertake research and other qualified tasks within predetermined time frames and to review and evaluate such work
- demonstrated through a dissertation the ability to make a significant contribution to the formation of knowledge through his or her own research
- demonstrated the ability in both national and international contexts to present and discuss research and research findings authoritatively in speech and writing and in dialogue with the academic community and society in general
- demonstrated the ability to identify the personal need for further knowledge
- demonstrated the capacity to contribute to social development and support the learning of others both through research and education and in some other qualified professional capacity.



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Judgement and approach

For the degree of Doctor of Philosophy the third-cycle student shall have:

- demonstrated intellectual autonomy and disciplinary rectitude as well as the ability to make assessments of research ethics, and
- demonstrated specialised insight into the possibilities and limitations of research, its role in society and the responsibility of the individual for how it is used.

Research thesis (doctoral thesis)

For the degree of Doctor of Philosophy the third-cycle student shall have been awarded a pass grade for a research thesis (doctoral thesis) of at least 120 credits.

Miscellaneous

Specific requirements determined each higher education institution itself within the parameters of the requirements laid down in this qualification descriptor shall also apply for a degree of Doctor of Philosophy with a defined specialisation.

LOCAL REGULATIONS

The student must have completed the study programme according to the general and individual syllabus.

4.3 Programme details: Please see the degree certificate.

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

Examinations and thesis or dissertation shall be awarded the grade of fail or pass.

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: Not applicable.

5.2 Professional status (if applicable): No special information is indicated; gives access to employment.

6. Additional information

6.1 Additional information: None.

6.2 Further information sources:

Mid Sweden University (Mittuniversitetet)

SE - 851 70 Sundsvall

phone +46 771 97 50 00

Swedish National Agency of Higher education (Högskoleverket)

The Swedish ENIC/NARIC office

P.O. Box 7851

SE - 103 99 Stockholm

phone +46 8 563 085 00

Name: Leonid Kuzmin

Student identification number or code (if available): 580129-1237

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7. Certification of the supplement

7.1 **Date:** 30 June 2010

7.2 **Signature**

Agneta Sundvisson



7.3 **Capacity:** Administrative Examination Officer

7.4 **Official stamp or seal**

8. Information on the national higher education system

Information on the Swedish higher education system of enclosure.

The Swedish Higher Education System

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

General

Higher education institutions have great autonomy in the organization of studies, use of resources and general administration. The Government may award the status of *universitet* to higher education institutions that meet certain criteria. Independent higher education providers may apply for recognition by the Government, obtain degree awarding powers and receive state subsidies. Qualifications from all higher education institutions that are recognized 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 qualifications ordinance.

Quality assurance

The Swedish National Agency for Higher Education is responsible for quality assurance system for higher education. All study programmes have been evaluated since 2001.

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 within all cycles has two strata of entry requirements: general and (additional) specific requirements. General eligibility to the first cycle is the same for all higher education.

General eligibility is attained either by completing an upper-secondary school programme, completed adult education at upper secondary school level or having the potential to benefit from the education, by virtue of other education, practical experience or other circumstances. The specific requirements vary according to the field of higher education and are in general expressed in terms of upper-secondary school qualifications in specific subjects. Restricted admission is used for all study programmes and courses.

Degree awarding powers

Universities have the right to award general qualifications at first, second and third cycle. A small number of university colleges have been awarded the general right to award first and second cycle qualifications, as well as the right to award third cycle qualifications in specific domain/s. Other state university colleges have the right to award first cycle qualifications and *magisterexamen* but must apply to the Swedish National Agency for Higher Education for the right to award *masterexamen* and third cycle qualifications.

University colleges that are self-governing and independent, as well as the Swedish University of Agricultural Sciences (SLU) and the Swedish National Defence College, must apply to the Government for the entitlement to award all qualifications.

With regard to vocational or professional qualifications at first and second cycle, both state universities and university colleges must apply to the Swedish National Agency for Higher Education for degree awarding powers.

Qualifications

All courses and study programmes are placed within one of three cycles: the first, second or third cycle. All qualifications are placed within one of the three cycles. Higher education within the first and second cycles 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 within the first and second cycle and a programme syllabus for each study programme. Educational cycle and intended learning outcomes have to be specified for each course. Sweden has a system of credits (*högskolepoäng*); a normal 40-week academic year corresponds to 60 credits. The system is compatible with ECTS credits.

In the qualifications ordinance, the Government has laid down which qualifications may be awarded and the objectives as well as intended learning outcomes for these qualifications. In the Swedish higher education system there are generally no intermediate qualifications. All qualifications are regarded as final, even if there is a possibility to continue studying. There are three categories of qualifications: qualifications in the arts, social science and sciences, in fine, applied and performing arts and professional qualifications. Translations into English of all titles of qualifications are regulated at the national level. An institution of higher education may decide that a discipline precedes a qualification title e.g. *filosofie kandidatexamen* or *medicine doktorexamen* or/and add a major field of studies e.g. *civilingenjörsexamen i maskinteknik*.

Qualifications in the arts, social science, science and in fine, applied and performing arts

First cycle:

1. *Högskoleexamen* (Higher Education Diploma) requires 120 credits and a diploma project. The corresponding degree in fine, applied and performing arts is *konstnärlig högskoleexamen* (Higher Education Diploma).
2. *Kandidatexamen* (Bachelor of Arts/ Bachelor of Science) requires 180 credits with a defined main field of studies determined by each higher education institution itself. At least 90 credits with increasingly in-depth studies including a diploma project of 15 credits have to be completed in the main field of study. The corresponding degree in fine, applied and performing arts is *konstnärlig kandidatexamen* (Bachelor of Fine Arts).

Second cycle:

1. *Magisterexamen* (Master of Arts/ Master of Science (60 credits)) requires 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 credits or an equivalent foreign degree. *Konstnärlig magisterexamen* (Master of Fine Arts (60 credits)) is awarded in fine, applied and performing arts.
2. *Masterexamen* (Master of Arts (120 credits)/Master of Science (120 credits)) requires 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 credits or an equivalent foreign degree. *Konstnärlig masterexamen* (Master of Fine Arts (120 credits)) is awarded in fine, applied and performing arts. The most advanced courses for *Masterexamen* may be accepted as partial fulfilment of the requirements for a doctoral programme.

General admission requirements to qualification within the second cycle are: qualification within the first cycle of at least 180 credits or a corresponding foreign qualification. 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 qualifications

There are about 40 professional degrees. Professional qualifications are awarded in the fields of engineering, health care, agriculture, law, education, etc. Professional qualifications may be placed within either the first or the second cycle. With a few exceptions, general entry requirements to professional degrees are the same as to the first cycle. Programmes leading to professional qualifications may vary in length depending on their content and may stretch over two cycles.

Third cycle:

The Faculty Board decides which subjects may be offered within the third cycle. 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* or a *konstnärlig licentiatexamen*.

Two qualifications are offered within the third cycle:

1. *Licentiatexamen* (Licentiate) requires at least 120 credits including a thesis of at least 60 credits. The corresponding degree in fine, applied and performing arts is *konstnärlig licentiatexamen*. The Faculty Board may also decide that a *licentiatexamen* can be awarded as an intermediate degree towards *doktorsexamen*.
2. *Doktorsexamen* (Doctor of Philosophy) requires 240 credits including a thesis of at least 120 credits. The thesis has to be defended publicly. The corresponding degree in fine, applied and performing arts is *konstnärlig doktorsexamen*.

Entry requirements to the third cycle are: The applicant has to be deemed to have ability to benefit from the education.

And general requirements to the third cycle are:

1. a second cycle degree
2. completed course requirements of at least 240 credits of which 60 credits within the second cycle or
3. equivalent level of knowledge acquired in Sweden or abroad.

Transitional provisions:

Rules for admission to the third cycle were changed from 1 July 2007. A person who met general requirements for admission before 1 July 2007 should be considered as eligible for admission until 30 June 2015. The general entry requirements before 1 July 2007 were a completed undergraduate programme of at least 120 credits (equivalent to 180 higher education credits) or 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. ECTS grading have been introduced at several Higher education institutions. No overall grade is given for a degree and students are not ranked. ■

