ITMO UNIVERSITY

SAINT PETERSBURG NATIONAL RESEARCH UNIVERSITY
OF INFORMATION TECHNOLOGIES, MECHANICS AND OPTICS

DOUBLE DEGREE
MASTER'S PROGRAM

INFORMATION
AND COMMUNICATION
TECHNOLOGIES

**INTERNATIONAL MASTER'S
DEGREE PROGRAM**

IN ENGLISH

IT'sMOre than a
UNIVERSITY

CONTENTS OF MASTER'S PROGRAM "INFORMATION AND COMMUNICATION TECHNOLOGIES"

1ST YEAR
Saint Petersburg, Russia

ITMO UNIVERSITY

1 semester — 30

Software of Control and Embedded Systems — 5	Simulation and Optimization Methods in Infocommunications — 4	
Modern Programming Techniques in Infocommunication Systems — 3	Theory of Infocommunication System and Networks Construction — 5	
Database Design and Implementation — 3	Design and Implementation of Distributed Systems — 5	
Systems and Networks Construction — 4	Networks and Communication Systems — 5	

Choose 1 of 2 courses
- Academic Writing in English/Russian
- English/Russian communication for engineers

2 semester — 30

Project Management in Infocommunication Systems — 3	Multichannel Telecommunication Systems — 5	WEB-services Design in Infocommunication Systems — 5
Scientific Research in Database Design and Implementation — 6	Scientific Research in Software Engineering — 6	
Design and Implementation of Distributed Systems — 6	Scientific Research in Computer Science — 3	

Choose 1 of 2 courses
- Academic Writing in English/Russian
- English/Russian communication for engineers

2ND YEAR
Lappeenranta, Finland

LUT Lappeenranta University of Technology

3 semester — 30

Introduction to M.Sc. Studies in Computer Science — 1	Research Methods in Software Engineering — 5	
Models and Methods of Software Engineering — 5	Software Quality, Processes and Organizations — 7	
Fundamentals of Information Systems — 7	Sustainable Innovation by Design: a User Experience Perspective — 5	

Choose 1 of 2 courses
- Academic Writing in English/Finnish
- English/Finnish communication for engineers

4 semester — 30
- Master's Thesis 5-8 modules — 30

DURATION AND FORMAT
4 semesters, full-time

TOTAL WORKLOAD
120 credits

CREDITS
30 ECTS per semester

PARTICIPANTS
International and Russian students

OBJECTIVE OF THE PROGRAM

Infocommunications are the basis of the New Economy and the key point of social life. They are one of the most rapidly changing part of IT sphere with new technologies and approaches appearing almost every day. Information and Communication Technologies Program matches and foresees the latest software and network architecture development trends.

The Master's Program provides practical implementation of theoretical knowledge in programming techniques, relational and post-relational databases design, development of administration platforms (Windows, Unix, CISCO networks and IT-infrastructure) and using virtualization and cloud technologies.
Students can maximize their career perspectives by choosing elective disciplines to boost their individual strengths and be in demand on the international job market.

TRAINING METHODS
Lectures, seminars, hands-on workshops, project-based learning, research work, creative and collaborative virtual learning environment.

DEGREES AWARDED

Master of Science in Technology — Lappeenranta University of Technology, in the field of Computer Science majoring in Software Engineering

Master of Science – ITMO University in the field Software Development for Infocommunication

WHY MASTER IN INFORMATION AND COMMUNICATION TECHNOLOGIES?

- ✓ Immersive, hands-on learning and research with high-ranked professors and certified trainers from ITMO University and top IT-experts from Lappeenranta University of Technology

- ✓ Practical implementation of received knowledge in international research groups

- ✓ Information on the hottest technical solutions from Software Development Partners (Microsoft, Novell, Cisco, Oracle)

- ✓ Four fully-equipped advanced hardware and software laboratories

- ✓ Great combination: two diplomas, access to international science community and profession in demand in any industry of the global market

KEY FACTS

Admission requirements	Bachelor's / Specialist's degree in the field of Computer Science / Software Engineering or equivalent with excellent/good grades. English language proficiency Academic TOEFL 80 iBT or 550 PBT, Academic IELTS 6.0, PTE Academic 54, Cambridge CAE or CPE-C.
Admission tests	Basic knowledge of programming, software technologies, network architecture, modelling and algorithms.
Admission procedure	• Written on-line application (deadline — July 1) • Admission test in early July • The original documents must arrive to ITMO University by the deadline of July 20, 2015 at 16:00

IMPORTANT PROGRAM INFORMATION

START ··········· Winter semester – **15th of September**

DURATION ········ **2** YEARS

TUITION FEES ········· at ITMO **180 000 RUB** per year for Russian citizens **192 000 RUB** per year for foreign citizens

at LUT **FREE** for the students accepted in 2015 by LUT. Fee for the next years will be defined by Finland's government later.

The final master thesis is presented in English; abstracts are submitted in Russian.

The evaluation procedure is in English language. Two master examining boards include representatives from ITMO and LUT Universities.

ITMO UNIVERSITY

Founded on March 26th 1900, ITMO is one of the oldest educational institutions in Russia. We are one of 15 universities in Russia awarded a federal grant to improve our position in the world university ratings by 2020. More than 40 international research laboratories, headed by world's leading scientists, operate at the University.

The mission of ITMO University is to prepare its graduates for the challenges of the 21st century. Serving over 13,000 students, our 14 departments offer 104 bachelor degree programs, 146 master degree programs, and 45 PhD programs.

On the forefront of scientific research, ITMO University tackles some of the world's top scientific challenges and strives to support an environment of interdisciplinary scholarship and innovation. Some of our best-known research work is in Photonics, Precision Mechanics, Computer Science and Information Technology.

REPUTATION

In 2004, 2008, 2009, 2012, 2013, 2015 ITMO University team became Absolute World Champions at ACM World Programming Contest.

Up to now, the team of ITMO University is the only six-time winner of the world championship.

In 2014 ITMO University team became the winner of the international programming competition Facebook HackerCup 2014, in California, USA. Out of thousands of participants only 25 best world programmers have qualified for the final. Among them there are 5 students and graduates of the ITMO's chair of computer technologies.
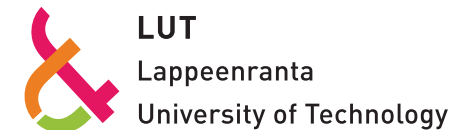
PARTNERS OF THE PROGRAM

LUT Lappeenranta University of Technology

photo by Mikko Nikkinen www.lut.pictures.fi

Lappeenranta University of Technology (LUT) is a pioneering science university in Finland, bringing together science and business since 1969. The international community joins 6,500 students and experts which provide scientific research and academic education. LUT has 31st position in the "World University Rankings". This list includes the top 100 universities that are under 50 years old. Thus LUT is the best young university of Finland and Nordic countries. LUT was awarded with silver medal for its research cooperation with industry. The estimation was provided using Industry Income indicator that shows the readiness of universities for cooperation with organizations. Only 20 % of universities in the world acively engage in cooperation with business. LUT is among these universities.

LUT community is constantly expanding networks of business and academic connections. LUT researches solve difficult problems as mitigation of climate change and continuous availability of clean water and energy. LUT promotes Science- and Research-based Business. The Finnish business journal "Talouselämä" has ranked LUT as the best university in business technology cooperation in Finland. LUT promotes business generated by scientific research. This is demonstrated by the university's own investment company Lureco, which supports LUT's research-based start-up companies.

Department of Infocommunication Technologies

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