

Sähkötekniikan tutkinto- ohjelma

DI-tutkinto ja uranäkymät



**Tervetuloa opiskelemaan
sähkötekniikkaa Oulun
yliopistoon!**



ITEE RESEARCH UNITS

Tutkinto-ohjelman tuottajat

CAS

CIRCUITS AND SYSTEMS
PROF. JUHA KOSTAMOVARA

MIC

MICROELECTRONICS
PROF. HELI JANTUNEN

OPEM

**OPTO-ELECTRONICS AND
MEASUREMENT TECHNIQUES**
PROF. TAPIO FABRITIUS

CWC-RT

CWC- RADIO TECHNOLOGIES
PROF. MARKKU JUNTTI

CWC-NS

CWC - NETWORKS AND SYSTEMS
PROF. JARI IINATTI

ACM

**APPLIED AND COMPUTATIONAL
MATHEMATICS**
PROF. KEIJO RUOTSALAINEN

CMVS

**CENTER FOR MACHINE VISION
AND SIGNAL ANALYSIS**
PROF. OLLI SILVEN

BISG

BIOMIMETICS AND INTELLIGENT SYSTEMS
PROF. JUHA RÖNING

M3S

**EMPIRICAL SOFTWARE ENGINEERING IN
SOFTWARE, SYSTEMS AND SERVICES**
PROF. MARKKU OIVO

UBICOMP

UBIQUITOUS COMPUTING
PROF. TIMO OJALA

OASIS

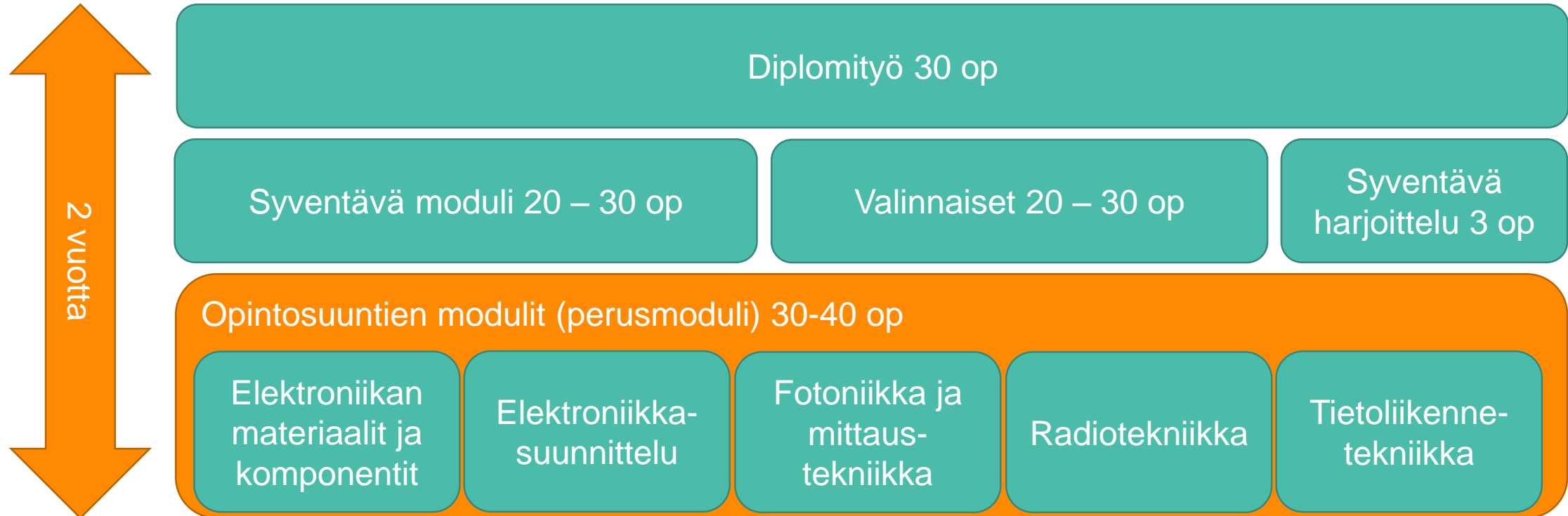
**OULU ADVANCED RESEARCH ON SERVICE
AND INFORMATION SYSTEMS**
PROF. HARRI OINAS-KUKKONEN

INTERACT

**HUMAN COMPUTER INTERACTION AND
HUMAN-CENTERED DEVELOPMENT**
PROF. NETTA IIVARI

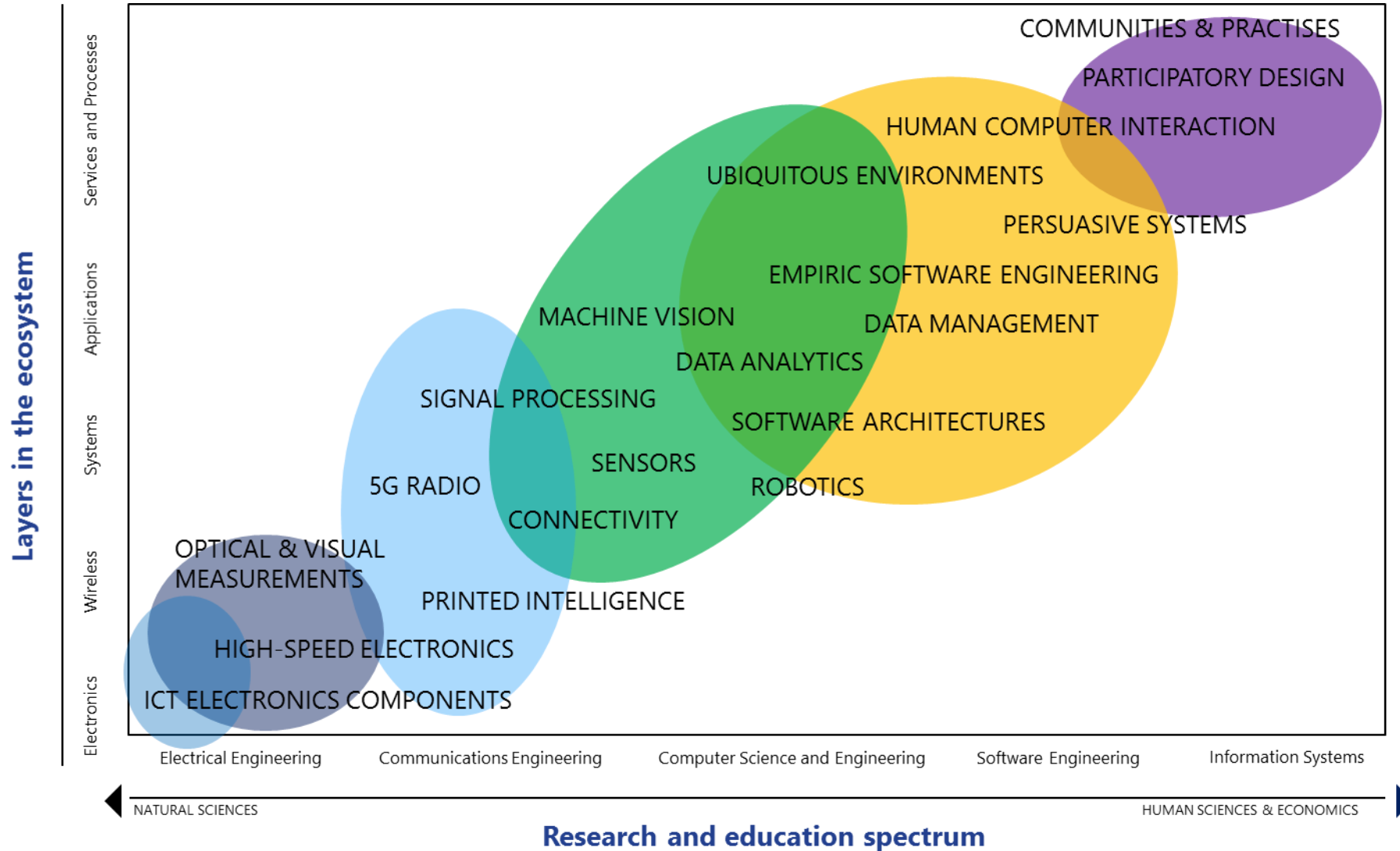


Diplomi-insinöörin tutkintorakenne





ITEE RESEARCH FOCUS





Electronics Materials and Components

1st year		2nd year	
Autumn	Spring	Autumn	Spring
Electronics Design 2	Microelectronics and mechanics	Microsensors	Masters thesis
Electroceramics and intelligent materials	Microelectronics packaging technologies	X-ray diffraction	
Radio Engineering 1	RF-components and measurements	Elective	
Sensors and measuring techniques	Microelectronics project		
Elective	Printed electronics		
	Introduction to nanotechnology		

Basic module	Advanced module	Masters thesis	Elective
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Electronics Design

1st year		2nd year	
Autumn	Spring	Autumn	Spring
Electronics Design 2	Digital Techniques 3	Telecommunication circuit design	Masters thesis
Electronic System Design	Embedded System Project	Electronics Design and Construction Exercise	
Radio Engineering 1	Optoelectronics	Elective	
Electronics design 3	Software Engineering		
Elective	Operating Systems		
	Power electronics		

Basic module	Advance module	Masters thesis	Elective
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Photonics and Measurement Techniques

1st year		2nd year	
Autumn	Spring	Autumn	Spring
Electronics Design 2	Wireless measurements	Elective	Masters thesis
Measuring systems	Optoelectronics		
Technical Optics	Biomedical Instrumentation		
Sensors and measuring techniques	Optoelectronics measurements		
Biophotonics and Biomedical Optics	Printed Electronics		
Elective	Introduction to nanotechnology		
	Testing techniques of Electronics		

Basic module	Advanced module 1*	Advanced module 2**	Masters thesis	Elective
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*Advanced module 1: Optical and electrical measurement techniques

**Advanced module 2: Testing techniques and printed electronics



Radio Engineering

1st year		2nd year	
Autumn	Spring	Autumn	Spring
Radio Engineering 1	Communication Signal Processing 1	Electronic System Design	Masters thesis
Electronics Design 2	RF components and measurements	Electronics Design and Construction Exercise	
Broadband Communications Systems	Antennas / Radio Channels	Telecommunication circuit design	
Statistical Signal Processing	Radio Engineering 2	Elective	
Wireless Communications I	Elective		
Electronics design 3			

Basic module	Advanced module	Masters thesis	Elective
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Wireless Communications Engineering

1st year		2nd year	
Autumn	Spring	Autumn	Spring
Broadband Communications Systems	Mobile Telecommunication Systems	Radio Engineering 1	Masters thesis
Elements of Information Theory and Coding	Communication Signal Processing 1	Elective	
Broadband Communications Systems	Communication Networks II		
Wireless Communications I	Wireless Communications II		
Introduction to Optimization	Communication Signal Processing 2		
Statistical Signal Processing			

Basic module	Advanced module	Masters thesis	Elective
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Uranäkymät ... on siis hyvät

- **Tutkinto-ohjelmasta valmistunut työskentelee tyypillisesti**
 - alan teollisuudessa
 - oppi- ja tutkimuslaitoksissa
 - yrittäjänä tai
 - valtion ja kuntien palveluksessa.
- **Tutkinto-ohjelmasta valmistunut työskentelee epätyypillisesti**
 - toimitusjohtajana
 - pääministerinä tai
 - business enkelinä
- **Yleensä toimenkuvaa on kansainvälinen**
- **Mahdollisuudet tieteellisiin jatko-opintoihin => TkT**
- **Maailmalla: rajattomat!**
- **Suomessa: erinomaiset**
- **Oulussa: erinomaiset**
 - Yrityskenttä on laaja verrattuna muutaman vuoden takaiseen tilanteeseen, jolloin Nokia dominoi
- **Sähkötekniikan ja tietotekniikan kehitys alkoi 1980-luvun puolivälissä**
 - Teollisuudesta jo esitetty huolia, että osaavaa porukkaa on jatkossakin => siinä teidän tilaisuus!



Joitain Oulun alueella toimivia yrityksiä

Ai)OX

antcore

ASPOCOMP

NOKIA

TEXAS INSTRUMENTS

CREOWAVE
SOLUTIONS FOR EXTREMES

SEEK NO MORE
IPCS by 9Solutions.

Detection Technology

Neusoft
Beyond Technology

refecor

Pulse Electronics

navicron

EB
Elektrobit

radio design

AAVAmobile

DEFIA

Haltian

RDVELHO

screen tec

Grant4Com

PLC

ESPOTEL
Advanced Embedded Solutions

uninord

POLAR
LISTEN TO YOUR BODY

CREOIR
BRANDS GO MOBILE

ELE-PRODUCTS
More than electronics

CoreHW

FocalSpec

MEDIATEK

JOT
automation

exéns
Development Oy

film360.tv
My Personal Cameraman

OFFCODE

Bittium

ULTRACOM
yhdistävä tekijä

TRACKER

NORDIC
SEMICONDUCTOR

Smarter Things



Kiitos!

Onnea opintoihin!