Pervasive Computing and Communications for Sustainable Development

Enrollment semester Autumn 2017

DATE
2017-10-10

REFERENCE NO.
12-2017

DECISION MAKER
Dean of the Faculty of Engineering

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Programme content and structure

In order to be eligible for the diploma in Computer Science with specialisation in Pervasive Computing Systems and Communication Architectures for Sustainable Computing the student has to obtain 120 ECTS, of which at least 90 ECTS must be courses at the advanced level including a Master thesis of 30 ECTS. The program is based on a university cooperation between three universities and combines courses in Information and Communication Technology (ICT) addressing sustainable development considering both the ICT itself as well as how ICT can be used for applications and services for sustainable development.

The partner universities are:
• University of Lorraine, Nancy, France
• Leeds Beckett University, Leeds, UK
• Luleå University of Technology, Luleå, Sweden

All courses in the program are compulsory. The first semester is provided at University of Lorraine and addresses Sustainable Computer Network Engineering. The second semester focuses on green IT and sustainable development and takes place at Leeds Beckett University. Luleå University of Technology provides the third semester in the subject of Resource Efficient Pervasive Computing systems and Communications.

For Swedish speaking students (level equivalent to Swedish B) the course Swedish for international students 1 (S0046P) is replaced by the course Project in Pervasive and Mobile Computing (W7001E) as a requirement for graduation.

For students enrolled prior to 2018 the constellation of partner universities is different (i.e. Lappenranta University of Technology and Saint Petersburg National Research University of Information Technologies, Mechanics and Optics, included; Leeds Beckett University, not included). Students enrolled 2017 and earlier are referred to the programme syllabus for study year 2017/18 (version 2016-0316).

Credits

120 credits

Degree

- Degree of Master of Science (120 credits) - Major; Computer Science and Engineering with specialisation Pervasive Computing and Communications for Sustainable Development

Entry requirements

Bachelors degree of at least 180 ECTS in Computer Science, Computer Engineering, Electrical / Electronics Engineering or Information Technology or a closely related area. Knowledge of computer networking, programming and operating systems is recommended.
A minimum of 22.5 ECTS in mathematics at university level is required.

Documented skills in English language.

Selection

The selection procedure is based on academic qualifications, quality and quantity aspects

Selection group

Academic: 100%

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Compulsory courses

University of Lorraine 30 credits

Course code	Course	Cr	Level	Comment
	Specification definition of Master thesis project (Second cycle)	6		
	Communication protocols (Second cycle)	3		
	Sustainable development & circular economy (Second cycle)	3		
	Systems Engineering (Second cycle)	3		
	Quality of Sustainable Service (Second cycle)	3		
	French Culture and Language (First cycle)	3		
	Automatic Control for Sustainable Development (Second cycle)	3		
	Seminar (Second cycle)	6		

Lappeenranta Univeristy of Technology 30 credits

Course code	Course	Cr	Level	Comment
	Seminar (Second cycle)	6		
	Code camp on Communications Engineering (Second cycle)	4		
	Service Oriented Architecture (Second cycle)	5		
	Research methods laboratory project (Second cycle)	5		
	Architecture in Systems and Software Development (Second cycle)	7		
	Towards Semester (Second cycle)	1		
	Finnish Society and Culture (First cycle)	2		

Luleå univeristy of technology 30 credits

Course code	Course	Cr	Level	Comment
D7001D	Network programming and distributed applications	7.5	Master's level	
D7030E	Advanced wireless networks	7.5	Master's level	

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Course code	Course	Cr	Level	Comment
M7020E	Special Studies in Pervasive and Mobile Computing	3	Master's level	
M7021E	Seminar	1.5	Master's level	
M7024E	Cloud services	7.5	Master's level	
S0046P	Swedish for International Students 1	3	Bachelor's level	

Alternative

For Swedish speaking students in the program the course S0046P Swedish for international students 1, is replaced by the course W7001E Project in Pervasive and Mobile Computing 3 Credits

Master Thesis porject 30 credits

Course code	Course	Cr	Level	Comment
M7022E	M.Sc. Thesis in Comp. Sc. with specialization in Pervasive Computing and Communications for Sustainable Development	30	Master's level	

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Study schedule

Year of study 1 Enrollment semester Autumn 2017, Is offered in 2017/2018

Study-period	Course code	Course	Cr	Comment
1		Automatic Control for Sustainable Development (Second cycle)	3	
1		Systems Engineering (Second cycle)	3	
1		Sustainable development & circular economy (Second cycle)	3	
1		Quality of Sustainable Service (Second cycle)	3	
1		Communication protocols (Second cycle)	3	
2		Specification definition of Master thesis project (Second cycle)	6	
2		French Culture and Language (First cycle)	3	
2		Seminar (Second cycle)	6	
3		Service Oriented Architecture (Second cycle)	5	
3		Code camp on Communications Engineering (Second cycle)	4	
3		Architecture in Systems and Software Development (Second cycle)	7	
4		Towards Semester (Second cycle)	1	
4		Finnish Society and Culture (First cycle)	2	
4		Research methods laboratory project (Second cycle)	5	
4		Seminar (Second cycle)	6	

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Year of study 2 Enrollment semester Autumn 2017, Is offered in 2018/2019

Study-period	Course code	Course	Cr	Comment
1	D7001D	Network programming and distributed applications	7.5	
1	D7030E	Advanced wireless networks	7.5	
1	S0046P	Swedish for International Students 1	3	
2	M7020E	Special Studies in Pervasive and Mobile Computing	3	
2	M7021E	Seminar	1.5	
2	M7024E	Cloud services	7.5	
3-4	M7022E	M.Sc. Thesis in Comp. Sc. with specialization in Pervasive Computing and Communications for Sustainable Development	30	Entry requirements

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