Metropolia UAS Information and Communication Technology COMMON STUDIES		extent of credits	Mathematics and natural sciences skills	Hardware skills	Network engineering skills	Software skills	ICT business skills	ICT application skills	Communication skills	Learning to Learn	Ethics	Operating in a workplace	Internationality and multiculturalism	Sustainable Development	Proactive Development
1st year of study	Software 1	15	x			x		x	x	x		x	x		
	Software 2	15	x			x		x	x	x		x	x		
	Hardware 1	15	x	x	x				x	x		x	x		
	Hardware 2	15	x	x	x				x	x		x	x		
3rd year of study	Engineering Swedish	5							x			x	x		
	Finnish as a Second Language: Finnish at Work	5							x			x	x		
	Economics	5					x				x				
4th year of study	Multidisciplinary Innovation Project	10	x	x	x	x	x	x	x	x	x	x	x	x	x
	Academic and Research Communication	5						x	x			x	x		
	Work Placement 1	15	x	x	x	x	x	x	x	x	x	x	x	x	x
	Work Placement 2	15	x	x	x	x	x	x	x	x	x	x	x	x	x
	Bachelor's Thesis	15	x	x	x	x	x	x	x	x	x	x	x	x	x

Metropolia UAS — Information and Communication Technology — MAJOR: HEALTH TECHNOLOGY	extent of credits	Mathematics and natural sciences skills	Hardware skills	Network engineering skills	Software skills	ICT business skills	ICT application skills	Communication skills	Learning to Learn	Ethics	Operating in a workplace	Internationality and multiculturalism	Sustainable Development	Proactive Development
2nd year of study														
Wireless Applications	5	x	x	x			x	x	x	x	x	x		
Applied Anatomy and Physiology	5	x	x				x	x	x	x	x			
Biomechanics and Motion Measurement	5	x	x				x	x	x	x	x			
Physiological Measurements and Sensors	5	x	x		x		x	x	x		x			
Project: Measurement Data Processing and Visualization	10	x	x	x	x		x	x	x		x			x
Requirement Specification	5	x			x	x	x	x	x	x	x	x		
Web Development	10	x		x	x		x	x	x		x			
Usability and User-driven Development	5	x					x	x	x	x	x			
Project: Health Application Development	10	x		x	x	x	x	x	x		x			x
3rd year of study														
Risk Management	5	x	x				x	x	x	x	x	x		
Patient Monitoring Equipment	5	x	x		x		x	x	x	x	x			
Medical Imaging	5	x	x				x	x	x	x	x			
Safety of Use and Usability Engineering	5	x	x			x	x	x	x	x	x			x
Applications of Neural Networks in Medicine	5	x			x		x	x	x	x	x			x
Medical Device Regulatory Path	5	x	x			x	x	x	x		x	x		x
Probability Calculus and Statistics	5	x					x	x	x		x			

Metropolia UAS
Information and Communication Technology
MAJOR: SOFTWARE ENGINEERING

		extent of credits	Mathematics and natural sciences skills	Hardware skills	Network engineering skills	Software skills	ICT business skills	ICT application skills	Communication skills	Learning to Learn	Ethics	Operating in a workplace	Internationality and multiculturalism	Sustainable Development	Proactive Development
2nd year of study	Object-oriented Programming	10				x				x				x	
	Programming Project	5				x		x	x	x		x		x	x
	Web Development	10			x	x				x				x	
	Web Project	5			x	x		x	x	x	x	x		x	
	Description and Modelling Techniques	5				x				x		x			
	User-centered Design	5				x				x	x	x	x	x	x
	Software Engineering Project 1	5			x	x		x	x	x		x		x	x
	Data Structures and Algorithms	5	x			x				x				x	
	Design Patterns	5				x				x				x	
	Software Engineering Project 2	5			x	x		x	x	x	x	x	x	x	x
3rd year of study	Probability Calculus and Statistics	5	x			x				x	x			x	
	Database Solutions	5				x				x				x	x
	Data Handling and Machine Learning	5	x			x		x		x	x			x	x
	Neural Networks	5	x			x		x		x				x	
	Neural Network Project	5	x			x		x	x	x		x		x	x
	Design Patterns in Mobile Application Development	5				x		x		x				x	
	Sensors in Mobile Application Development	5		x		x		x		x				x	
	Advanced Mobile Application Development	5		x		x		x		x				x	
	Mobile Application Development Project	5		x	x	x		x	x	x		x	x	x	x
	Ethical Hacking	5				x		x		x	x			x	
	Special Professional Course	5				x		x		x				x	

Metropolia UAS Information and Communication Technology MAJOR: SMART IOT SYSTEMS		extent of credits	Mathematics and natural sciences skills	Hardware skills	Network engineering skills	Software skills	ICT business skills	ICT application skills	Communication skills	Learning to Learn	Ethics	Operating in a workplace	Internationality and multiculturalism	Sustainable Development	Proactive Development
2. opintovuosi Osaamistavoitteet	C Programming in IoT Devices	5		x		x				x					
	Switched Networks and Routing	5			x					x					
	Engineering Mathematics	5	x							x					
	Embedded Systems Programming	5		x	x	x		x	x	x					
	Linux Servers and Databases	5			x	x		x		x					
	Probability and Statistics	5	x			x				x					
	Object-Oriented Programming in IoT Devices	5		x		x				x					
	Modern Computer Architecture	5		x		x				x					
	Mathematics and Physics for IoT	5	x							x					
	IoT Connecting Things	5		x		x		x	x	x					
	IoT Devices and Wireless Communication	5		x	x	x		x	x	x				x	
	Sensor Physics	5	x							x					
	Windows Servers	5		x	x			x		x					
	Secure Enterprise Networks	5			x			x		x					x
	IoT Security	5			x			x		x	x	x			x
	Cloud Computing Fundamentals and Machine Learning	5			x	x		x		x					x
	Enterprise Virtualization Configuration and Management	5			x			x	x	x		x			x
	Cybersecurity Operations	5			x			x		x	x	x			x
3.opintovuosi Osaamistavoitteet	IoT Security	5		x	x			x		x	x	x			x
	Managing Linux Systems with Embedded Perspective	5		x	x	x		x		x					
	ARM-Processors and Embedded Operating Systems	5		x		x				x					
	Embedded Linux Basics (Yocto Project)	5		x	x	x		x	x	x		x			
	Software Test Automation for Embedded Systems	5		x		x		x		x					
	Amazon Web Services	5			x	x		x		x		x			x
	Microservices and Container Orchestration	5			x	x		x		x					x
	Ethical Hacking	5						x	x	x	x	x			
	Introduction to Big Data Analytics	5			x	x		x		x					
	Practical Cybersecurity	5			x			x		x		x			x
	IoT Project	10	x		x	x		x	x	x		x		x	x