

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 Requirement Specification	10	X	X	X	X		X	X	X		X			X
	Web Development	5	X			X	X	X	X	X	X	X	X		
	Usability and User-driven Development	10	X		X	X		X	X	X		X			
	Project: Health Application 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: GAME DEVELOPMENT		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	Game Design	5		x		x	x		x	x		x			
	Game Engines	5	x		x	x				x					
	Game Mathematics	5	x			x				x					
	C++ Programming	5	x			x				x					
	Basics of Game Graphics	5	x			x				x					
	Portfolio Project 1	5				x	x	x	x	x		x			
	Game Physics	5	x			x				x					
	Data Structures and Algorithms	5	x			x		x		x					
	Data Structures and Algorithms Project	5	x			x		x		x		x			
Portfolio Project 2	15				x	x	x	x	x		x				
3rd year of study	Advanced C++ Programming	5	x			x		x		x					
	Game Server Programming	5		x	x	x		x		x					
	Graphics Programming	5	x			x				x					
	Multiplayer Game Project	15				x	x	x	x	x		x			
	Game Publishing and Analytics	5				x	x		x	x	x	x			

Metropolia UAS Information and Communication Technology MAJOR: WEB DEVELOPMENT AND DIGITAL MEDIA		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	Basics of Web Development	10				X				X					
	User-centric Application Development	10	X			X		X		X					
	Web Development Project	10	X		X	X	X	X	X	X		X			
	Hybrid Applications	10			X	X		X		X					
	Multi Channel Publishing	10	X	X		X	X	X	X	X					
	Multi Platform Project	10				X	X	X	X	X		X			
3rd year of study	Server Side Programming and Data Communications	10		X	X	X				X					
	XR Technologies	10	X	X		X	X	X		X					
	Media Service Project	10		X	X	X		X	X	X	X	X			
	Emerging Technologies	5		X	X	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	