

For QTOM Providers: We need all of this information, including course descriptions for the website:												
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Provider	Course Name	<a href="#">Competence Framework</a>	ECTS	Schedule	Content Available	pre-requisites	Short description	Long description (optional)	Max number of non-local students	Max number of non-local unis	Notes	
<b>22/23 COURSES ADD BELOW</b>												
Paolo Muratore-Ginanneschi, University of Helsinki, Dept. Mathematics and Statistics	Open Quantum Systems, Optimal stochastic control, Stochastic Methods, Hamiltonia Dynamics	1.1 1.2 1.3	5 or 10	From September	set of lecture notes	Linear algebra, e	Open Quantum Systems is taught		No max	No max		
Marilù Chiofalo Dept. of Physics, University of Pisa	Quantum liquids	2.1-2.3, 6.3, 8.5-8.8 to B1	6 or 9	Feb 15th-end of May (II semester)	Onenote files of I	BS physics	Provides concep	The course is cor	No max	No max		
Aurél Gábris, Czech Technical University in Prague	Quantum Programming	1.3, 5.1-3 to A2	2	13. 2. – 12. 5. 20	13 lectures and e	Linear algebra, e	The goal of the c	The classes are c	No max	No max	fully on-line, pass/fail mark by default	
CTU Prague - Novotny	Open Quantum Systems	1.2 to B1	2	13. 2. – 12. 5. 20	13 lectures, 2x50 mins	Knowledge of quantum mechanics.	Introduction to th physical realizati	Learning outcome: Knowledge: Introduction to qu dynamical semig Further informati	No max	No max		
University of the Basque Country -Sherman	Semiconductor Physics, Transport, and Spintronics	2.3 at level B1	2	Febr. 15, 2023, 12 weeks	3 hours live lectures a week, 4 hours home work	quantum mechanics, basic solid state physics	Learning of modern quantum approaches to solids, low - dimensional structures, and solid-state based qubits. Analysis of topology - related effects (analytically and code-based).		No max	No max		
Marten Teitsma - UvA	Quantum Computing	5.1, 5.3 (Quantum Algorithms) and 5.4 at level B2	8	flexible	14 lectures, 2x45 mins, extensive lecture notes	Linear algebra and probability theory	This course is taught from a mathema		No max	No max	Asynchronous format.	
Péter Kutas - Eötvös Loránd University	Post-quantum cryptography	5.3 and 8.2 at level B1 and 7.1. at level A1	6	flexible	14 lectures, 90 min and 14 practice courses	Basic knowledge of linear algebra, abstract algebra and some familiarity with basic cryptography concepts	This course will focus on theoretical a		N/A	N/A		
Laszlo Bacsardi, Sandor Imre - Budapest University of Technology and Economics	Introduction to quantum computing and communication	5.1,5.3, 7.1, 7.2, 7.3	2	From Sep 8, Thu, 14 weeks	14 lectures	Linear algebra	This course gives an overview on diffe		N/A	N/A	It is possible to join the course after its official start date.	

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Jibrán Rashid (QWorld) Instructor: Abuzer Yakaryilmaz (QWorld & DF@LU)	QCourse511-2			6 Sep 5, 16 weeks	QWorld Bronze and Silver Tutorials		Our qcourse is available  This edition is free.	To pass QCourse511 During the lecture  Bronze covers basic Silver covers comp Our course tutorials Each applicant should During self-study period  A student can get The online exam(s) The workload of Q	N/A	N/A	Through QWorld	
Laura Mančinska - University of Copenhagen	Quantum Information Theory	1.1, 1.2, and 7.1 to level B2	7.5	Feb 7th 2022, 7 weeks	2x 90 min live lectures per week, 7 weeks. 90-min exercises	Linear algebra	Quantum information	Review of Probability	20	3	TAing must be provided locally	
<b>21/22 COURSES FOR REFERENCE</b>												
Laura Mančinska - University of Copenhagen	Quantum Information Theory	1.1, 1.2, and 7.1 to level B2	7.5	Feb 7th 2022, 7 weeks	2x 90 min live lectures per week, 7 weeks. 90-min exercises	Linear algebra	Quantum information	Review of Probability	20	3	TAing must be provided locally	
Marten Teitsma - UvA	Quantum Computing	5.1, 5.3 (Quantum Algorithms) and 5.4 at level B2	8	flexible	14 lectures, 2x45 mins, extensive lecture notes	Linear algebra and probability theory	This course is taught from a mathematical		N/A	N/A		
Michael Walter - UvA	Quantum Information Theory	5.1 and 5.3 (Quantum Algorithms) at level B2	8	flexible	14 lectures, 2x45 mins	Linear algebra and probability theory	With the birth of C		N/A	N/A		
Péter Kutas - Eötvös Loránd University	Post-quantum cryptography	5.3 and 8.2 at level B1 and 7.1. at level A1	6	flexible	14 lectures, 90 min and 14 practice courses	Basic knowledge of linear algebra, abstract algebra and some familiarity with basic cryptography concepts	This course will focus on theoretical aspects		N/A	N/A		
Alex Grilo - CNRS/Sorbonne Université	Quantum physics for computer scientists	1.1 and 5.3 at level B1	9	flexible			This course offers a		N/A	N/A		
Albert Werner - University of Copenhagen	Quantum mechanics from condensed matter to computing	1.1, 1.2, and 5.2 at B1	2.5, 5, or 10	phase 1: Jan-Apr phase 2: May-Jun phase 3: late Jun phase 4: Single course	phase 1: 6 lectures phase 2: group work phase 3: One-week phase 4: final exam	Basic background in	We are currently working	The course is organized	60	N/A		

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CTU Prague - Novotny	Open Quantum Systems	1.2 to B1	2	14/02/2022 -- 26/	13 lectures, 2x50 mins	Knowledge of quantum mechanics.	Introduction to the physical realization of quantum mechanics.	Learning outcomes: Knowledge: theoretical framework, dynamical semigroups, Further information: Introduction to quantum mechanics, Application of the	N/A	N/A		
Harrisburg University	QISC 530 Foundations of QIS			flexible	various	none	Provides foundational aspects of quantum technologies and the ecosystem					
University of Salerno-Citro	Condensed matter qubits	2.3 to A1, 5.1 and 1.1 to B2	1	Jan-Feb	3-4 lectures	Basics of quantum mechanics	The mini-course is intended to give an overview of two examples of qubit: the electron spin in quantum dots and the superconducting Josephson junction. We will present the basic models and the logic gate operations.		N/A	N/A		
University of the Basque Country -Sherman	Semiconductor Physics, Transport, and Spintronics	2.3 at level B1	2	Febr. 15, 2022, 12 weeks	3 hours live lectures a week, 4 hours home work	quantum mechanics, basic solid state physics	Learning of modern quantum approaches to solids, low - dimensional structures, and solid-state based qubits. Analysis of topology - related effects (analytically and code-based).					
Marilù Chiofalo Dept. of Physics, University of Pisa	Quantum liquids	2.1-2.3, 6.3, 8.5-8.8 to B1	6 or 9	Feb 15th-end of May (II semester)	Onenote files of lectures content. 15 (1+1 hour) videos of lectures	BS physics	Provides conceptual and methodological toolbox to understand the physics of quantum liquids and learn the essentials to conceive a quantum technology (QT). Different QT platforms are discussed	The course is cor	N/A	N/A		

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Paolo Muratore-Ginanneschi, University of Helsinki, Dept. Mathematics and Statistics	Open Quantum Systems, Optimal stochastic control, Stochastic Methods, Hamiltonia Dynamics	1.1 1.2 1.3	5 or 10	every second year basis, fall semester	set of lecture notes on course web-page, lecture video recordings planned	Linear algebra, elementary quantum mechanics, elementary classical mechanics	Open Quantum Systems is taught		N/A			
Aurél Gábris, Czech Technical University in Prague	Quantum Programming		2-4	14/02/2022 -- 26/	13 lectures, 2x50 mins	Linear algebra, elementary probability theory, complex numbers recommended	The goal of the course is to provide the basic skills for programming quantum computers, and to use these skills to develop understanding of fundamental quantum communication protocols and quantum algorithms.	The classes are	N/A	N/A		
O. Barış Malcıoğlu, Middle East Technical University, Ankara, Turkey	PHYS 437 - Practical Quantum Computing for Scientists	5.1,5.2,5.3,5.4,5.5,8.1,8.2 all at B1- passing grade at ECTS course	7	Every term, <a href="https://oidb.metu.edu.tr/en/academic-calendar">https://oidb.metu.edu.tr/en/academic-calendar</a>	13 2-hour lectures; 13 2-hour labs	Introductory Quantum Physics		This course is a hands-on introduction to the use of Quantum Computers with a focus on basic sciences. Students will learn concepts such as Quantum Fourier transform, Quantum Walk Algorithms, Hamiltonian Simulation, Common error channels and Fault-Tolerant Quantum Computation, Quantum Machine Learning and Other paradigms in Quantum computing (Quantum cluster state model, Bosonic sampling, etc.)	20	20	Undergraduate course, with project. <a href="https://ocw.metu.edu.tr/course/view.php?id=342">https://ocw.metu.edu.tr/course/view.php?id=342</a>	

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Angelo Compierschio Luleå University of Technology	Quantum Psychology	1.1, 1.2	7.5	flexible	6 lectures	Quantum principles to Psychology	The course is intended to give an overview of the application of Quantum mechanics to psychology. We will present the basic quantum scheme of perception dynamics.		N/A	N/A		
Friedrich Schiller Universität Jena	Quantum Computing	1.1, 1.2 , 1.3, 5.1, 5.2, 5.3	4.5	11.04.2022 - 15	14 lectures (90 mins) + 7 excersices (90 mins)	<b>Basic understanding of Quantum Physics</b>	The course will introduce QuBits, Gates, Entanglement and then progress to discuss important Quantum Algorithms		N/A	N/A	please contact local rep.	