

Study Plan for Students Reading Physics Major with Specialization in Quantum Technologies							
Year 1		Year 2		Year 3		Year 4	
Sem 1	Sem 2	Sem 1	Sem 2	Sem 1	Sem 2	Sem 1	Sem 2
Pair 1: Integrated Course in Social Sciences Pair 2: Integrated Course in Humanities	Pair 1: Integrated Course in Humanities Pair 2: Integrated Course in Social Sciences	Writing	Scientific Inquiry II	Communities and Engagement	Interdisciplinary I	PC4288Q Honours Projects in Quantum Technologies (8MCs)*^	
Pair 1: Scientific Inquiry I Pair 2: Integrated Course in Asian Studies	Pair 1: Integrated Course in Asian Studies Pair 2: Scientific Inquiry I	Digital Literacy	Artificial Intelligence	PC3130 Quantum Mechanics II	Interdisciplinary II	PC4230 Quantum Mechanics III	PC4228 Device Physics for Quantum Technology
Pair A: Data Literacy Pair B: Design Thinking	Pair A: Design Thinking Pair B: Data Literacy	PC2130 Quantum Mechanics I	PC2135 Thermodynamics and Statistical Mechanics	PC3221 Fundamentals of Quantum Information and Computation	PC3247 Modern Optics	UE 1	UE 4
PC1101 Frontiers of Physics	PC2031 Electricity & Magnetism I	PC2193 Experimental Physics and Data Analysis	PC3193 Experimental Physics II	PC3231 Electricity & Magnetism II	PC3270 Machine Learning for Physicists / New AI Course	UE 2	UE 5
PC2174A Mathematical Methods in Physics I	PC2032 Classical Mechanics I	PC3274A Mathematical Methods in Physics II	PC3236 Computational Methods in Physics	PC3235 Solid State Physics I	PC3288Q Advanced UROPS in Quantum Technologies	UE 3	UE 6

Note: Students have to complete all CHS Common Curriculum courses in their first two years except for the following 3 courses:

- Communities and Engagement course – can be taken from Years 2 to 4
- Two Interdisciplinary courses – can be taken in Years 3 and 4

Graduation Requirements

Students must take at least one of the following courses in the UE space to fulfil the graduation requirements. It is recommended to take UPIP during a special term.

- PC3288 (or its variants) Advanced UROPS in Physics I
- PC4288 (or its variants) Honours Project in Physics (8 Units)
- PC UPIP course (minimum 4 Units, advised to be taken during a special term)
- NOC Internship Course

List of Courses for Specialization (choose five courses)

- PC3130 Quantum Mechanics II
- PC3221 Fundamentals of Quantum Information and Computation
- PC3233 Atomic and Molecular Physics I
- PC3288Q Advanced UROPS in Quantum Technologies I, on a related subject [^]
- PC4230 Quantum Mechanics III
- PC4243 Atomic and Molecular Physics II
- PC4246 Quantum Optics
- PC4228 Device physics for Quantum Technology

^Projects are approved by default if proposed by:

- any of the CQT PIs (<https://www.quantumlah.org/people/staff.php?cat=research>; type “principal” in the search window)
- Gong Jiangbin (https://www.physics.nus.edu.sg/our_faculty/prof-gong-jiangbin-deputy-head-research/)
- Mankei Tsang (https://www.physics.nus.edu.sg/our_faculty/a-prof-tsang-mankei/)
- Charles Lim (<https://www.quantumlah.org/people/profile.php?id=353>)

Suggestions for elective courses:

- PC3243 Photonics
- PC4236 Computational Condensed Matter Physics (towards graduate studies)
- PC4240 Solid State Physics II (towards graduate studies)
- PC4241 Statistical Mechanics (towards graduate studies)