

Recommended Course Package for Computer Science Students

	Block 1	Block 2	Block 3	Block 4
Year 1	AP (Advanced Programming)	ML (Machine Learning)	Q-INF MAT	Q-INF FYS
	AADS (Advanced Algorithms and Data Structures)	FYS/MAT	CS (Computer Systems)	CS (Computer Systems)
	Crypto (C)		DifFun (C)	Adv MathNBI (C)
Year 2	CRYPTO	ACS (Advanced Computer Systems)	Thesis (30 ECTS)	
	CS (Computer Systems)	CS (Computer Systems)		

Recommended Course Package for Physics Students

Physics students should register for the specialization in Quantum Science

	Block 1	Block 2	Block 3	Block 4
Year 1	QM3 (Quantum Mechanics 3)	Begrænset valgfag	IDS (Introduction to Data Science)	Advanced Math Phys
	Begrænset valgfag	ML (Machine Learning)	Q-INF MAT	Q-INF FYS
Year 2	Thesis (60 ECTS)			

AADS: Advanced Algorithms and Data Structures

ATML: Advanced Topics Machine Learning

ML: Machine Learning

ATIA: Advanced Topics Image Analysis

SIP: Signal Image Processing

LSDA: Large Scale Data Analysis

BDA: Big Data Analysis (Offered by NBI)

RA: Randomized Algorithms

IDS: Introduction to Data Science

Recommended Study Plans for MATH Students

1. For MATH students with a background in Quantum Mechanics:

	Block 1	Block 2	Block 3	Block 4
	Compulsory course	Short restricted elective course	Elective course	Elective course
	Long restricted elective course	Short restricted elective course	Long restricted elective course	Physics course
	Long restricted elective course	Elective course	Short restricted elective course	Long restricted elective course
	Physics course	Elective course	Thesis (30 ECTS)	
	Compulsory course	Long restricted elective course		
	Computer Science course	Computer Science course		

2. For MATH students with no background in Quantum Mechanics:

	Block 1	Block 2	Block 3	Block 4
	Compulsory course	Short restricted elective course	Elective course	Elective course
	Elective course	Physics course	Long restricted elective course	Physics course
	Long restricted elective course	Elective course	Short restricted elective course	Long restricted elective course
	Elective course	Elective course	Thesis (30 ECTS)	
	Long restricted elective course	Short restricted elective course		
	Computer Science course	Computer Science course		

One block equals nine weeks and 15 ECTS

- Compulsory course
- Long restricted elective course (minimum 4 courses)
- Short restricted elective course (minimum 3 courses)
- Elective course
- Physics course (bachelor or master level)
- Computer Science course (bachelor or master level)

Courses relevant for MATH students offered at the two other departments are:

From DIKU:

BA Courses:

- Algorithms and Data Structures (overlaps with DifFun in MATH)

MA Courses:

- Advanced Algorithms
- Machine Learning

From NBI:

BA Courses

- Quantum Mechanics 1

MA Courses

- Quantum Optics
- Quantum Information

MATH courses relevant for DIKU and NBI students are:

BA Courses:

- Mathematical Physics
- Introduction to Quantum Computing

MA Courses:

- Quantum Information Theory
- Advanced Mathematical Physics
- Riemannian Geometry and General Relativity