Selecting Options: 2012-13

To assist you in choosing courses, the various options are listed below, grouped into themes. These are only meant to reflect natural associations of ideas among courses. When considering them you should bear in mind the requirements of the MSc as stated in the Course Handbook Thus while you may want to do several courses from one theme, you can expect that you will need to choose courses from different themes to meet the MSc requirements.

The table also indicates formal prerequisites for each course. Note that a course you have done in your previous degree could fulfil such a prerequisite. Your supervisor will be able to help you decide when this is the case. Also you should look at the relevant web page for more informal information on useful background for each course.

- Programming:

Course	**Schedule**	**Prerequisite**
Advanced Security	C	Basic (1st yr) probability, basic (1st yr) linear algebra, computer security (the MT course)
Compilers	A	A basic knowledge of Functional Programming
Computer Animation	C	
Computer Security	B	
Concurrency	A	
Concurrent Programming	A	Concurrency, OOP
Functional Programming	A	
Object Oriented Programming	A	
Principles of Programming Languages	B	A knowledge of Functional Programming
Program Analysis*	C	

- Specification:

Course	**Schedule**	**Prerequisite**
Computer Security	B	
Concurrency	A	
Introduction to Specification	A	

- Information Structures, Computational Logic and Verification:

Course	**Schedule**	**Prerequisite**
Automata, Logic & Games	C	FOCS
Computational Complexity	B	

Computer-Aided Formal Verification	B	
Concurrency	A	
Databases	B	
Database Systems Implementation	C	
Foundations of Computer Science	A	
Probabilistic Model Checking	C	
Software Verification	C	FOCS
Theory of Data & Knowledge Bases	C	
Probability & Computing	C	

- Semantics and Mathematical Structures

Course	**Schedule**	**Prerequisite**
Automata, Logic & Games	C	FOCS
Categories, Proofs & Processes	C	Basic knowledge of (abstract) algebra and linear algebra are recommended
Game Semantics*	C	
Foundations of Computer Science	A	
Lambda Calculus & Types	B	
Reasoning about Information Update*	B	
Probabilistic Model Checking	C	
Quantum Computer Science	C	Knowledge of basic linear algebra
Software Verification	C	FOCS
Probability & Computing	C	

- Artificial Intelligence

Course	**Schedule**	**Prerequisite**
Computational Linguistics	C	See "extra background reading"
Information Retrieval	C	See "extra background reading"
Intelligent Systems	B	
Knowledge Representation and Reasoning	B	
Machine Learning	B	

- Other Courses:
  - Computers in Society
  - Bioinformatics & Computational Biology
  - Requirements

* Not being offered in 2012/13