

## A BRIEF OVERVIEW OF SOME IMPORTANT PREREQUISITES...

*If you're not sure about any prerequisite, please talk to your AA and/or the teacher of the class!*

Prerequisite	Required for
Linear Algebra (W1)	LOTS OF THINGS!*
(something like) Group Theory (W1)	Hydrogen Atom (W2)
	Ring Theory (W2)
	Representation Theory (W2-3)
	Representations of the Symmetric Group (W4)
	Matrix Groups (W2)
(something like) Graph Theory (W1)	Travelling Salesman Problem (W3)
	Finding the Perfect Match (W2)
	Flows (W4)
	Graph Minors (W3)
"Comfort with abstract algebra"	PRIMES is in P (W4)
	Quantum Computation (W4)
Any two abstract algebra courses	Category Theory (W4)
Category of Sets (W1)	
Multivariable Calculus (W1)	Functions of a Complex Variable (W2-3)
First week of Representation Theory (W2)	Representations of the Symmetric Group (W4)
Ring Theory (W2)	Commutative Algebra (W3)
	Multilinear Algebra (W3)
	Algebraic Number Theory (W4)
First week of Probability (W1)	Machine Learning (W3)
Impartial Game Theory (W1)	Partizan Game Theory (W2)

\*All  $x$  where  $x \in \{\text{Representation Theory, Matrix Groups, Using Linear Algebra, Flag Varieties, Multilinear Algebra, Symmetric Group Representations, Symmetric Functions and Schubert Calculus, Topology of Surfaces, Algebraic Number Theory, Chip Firing and Sandpiles}\}$