



Civil Engineering and Mechanical Engineering

Recommended math competences.

Topic	Description
Functions including one variable	Domain and range
	Inverse functions
	Linear functions
	Polynomials
	Rational functions
	Trigonometric functions (sine, cosine and tangent)
	Exponential and logarithm functions (including the laws of these)
Differentiation	The concept of limit
	Tangents and normals
	Rules of operations for differentiation (product, quotient, chain rule)
Integration	Indefinite integral
	The definite integral
	Rules for the integral
	Integration by substitution
	Integration by parts
	Calculation of areas by integration
	Calculation of volumes of revolution by integration
Vectors in two dimensions	Rules of operations for vectors in two dimensions
	Scalar product
	Vectors in coordinate geometry
Differential equations	General/particular solution
	Separable equations of first order