

# Engineering Analysis 1A

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# **1 Introduction**

## **1.1 Assessment**

Online assessments using MyMathLab worth 35% and a January examination worth 65%. You must get above 40% in this exam for your coursework marks to count.

## **1.2 Getting Help**

All lectures are recorded and available on blackboard.

Office hours are Monday 11-12 in A123 EC.

There is also an Engineering Mathematics Cafe from the 9<sup>th</sup> October every Tuesday, Wednesday and Thursday from 1 to 3 in A027 EC.

## 2 Linear Algebra

In general a linear equation may have  $m$  equations and  $n$  unknowns.

### 2.1 Gauss Elimination

Gauss elimination is a method of solving simultaneous equations that involves converting the set of equations into a matrix. For example:

$x_1 + 2x_2 + 3x_3 + x_4 = 5$	$x_1$	$x_2$	$x_3$	$x_4$	$ $	1
	1	2	3	1	$ $	5
$2x_1 + x_2 + x_3 + x_4 = 3$	2	1	1	1	$ $	3
$x_1 + 2x_2 + x_3 = 4$	1	2	1	0	$ $	4
$x_2 + x_3 + 2x_4 = 0$	0	1	1	2	$ $	0