



## Essential Mathematics for Engineering & Construction

This training course has been developed by OakCAD/NCT to meet the growing need for technician engineers to update or upgrade their knowledge and skills in Mathematics

The course can be provided as a tutor lead delivered course, as a distance learning course or flexibly, combining both methods.

The course content has been developed in consultation with several of our large pharmaceutical and manufacturing clients and delivered as a tutor lead course since 2001.

This course is in modular form. Each module consists of:

- 1 Course notes
- 2 Worked examples
- 3 Trainee exercises
- 4 Module assessments

Each module is individually assessed. On completion of all modules, there is an end of course assessment.

This course is appropriate for apprentices requiring additional mathematics support.

The course has been set at a level equivalent to Level 2/3 and it is expected that it will take you approximately 40 hours of self study time or 15 hours of delivered time.

### **COURSE FEE**

Please contact OakCAD/NCT

### **COURSE CERTIFICATION**

This course is certificated by OakCAD Training.

### **REQUIREMENTS**

To undertake this course, it would be helpful to have some basic arithmetical knowledge and use.

OakCAD/NCT is able to advise you as to whether you have the necessary background knowledge and experience to undertake this course.

### **INDUSTRY**

This course is appropriate for the engineering industry, pharmaceutical industry, petro-chemical industry, food manufacture and construction industry.

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|                 |   |
|-----------------|---|
| <b>Module 1</b> | <b>Units</b>                                    |
|                 | 1 International System of Units                 |
|                 | 2 Derived Units                                 |
|                 | 3 Prefixes                                      |
| <b>Module 2</b> | <b>Decimal Places &amp; Significant Figures</b> |
|                 | 1 Decimal Places                                |
|                 | 2 Significant Figures                           |
|                 | 3 Unnecessary Zeroes                            |
| <b>Module 3</b> | <b>Basic Algebra</b>                            |
|                 | 1 Introduction                                  |
|                 | 2 Use of Algebraic Terms                        |
| <b>Module 4</b> | <b>Transposition of Formulae</b>                |
|                 | 1 Introduction                                  |
|                 | 2 Transposition Method 1                        |
| <b>Module 5</b> | <b>Power &amp; Root of a Number</b>             |
|                 | 1 Power of a Number                             |
|                 | 2 Adding & Subtracting powers                   |
|                 | 3 Root of a Number                              |
| <b>Module 6</b> | <b>Reciprocals</b>                              |
|                 | 1 Definition                                    |
|                 | 2 Lowest Common Denominator                     |
| <b>Module 7</b> | <b>Using a Calculator</b>                       |
|                 | 1 Initial Setting                               |
|                 | 2 Calculation Mode                              |
|                 | 3 Calculations                                  |
| <b>Module 8</b> | <b>Ratio, Proportion &amp; Percentage</b>       |
|                 | 1 Ratio & Proportion                            |
|                 | 2 Percentage                                    |
| <b>Module 9</b> | <b>Graphs</b>                                   |
|                 | 1 Introduction                                  |
|                 | 2 Straight Line Graphs                          |
|                 | 3 Plotting a Graph                              |



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### **Module 10 Further Transposition of Formulae**

- 1 Further Transposition
- 2 Substitution of Numbers

### **Module 11 Properties of a Right Angled Triangle**

- 1 Angles & Sides
- 2 Pythagoras
- 3 Sine, Cosine & Tangent