

## How To Enrol

The enrolment fee is £900 + VAT for this three day workshop.  
To enrol for Steel Products and Applications  
please complete the form below and return to:

**NAMTEC**  
Swinden House,  
Moorgate Road,  
Rotherham  
S60 3AR

Fax: 01709 724999  
Website: [www.namtec.co.uk](http://www.namtec.co.uk)

Name: \_\_\_\_\_

Job Title: \_\_\_\_\_

Organisation: \_\_\_\_\_

Address: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

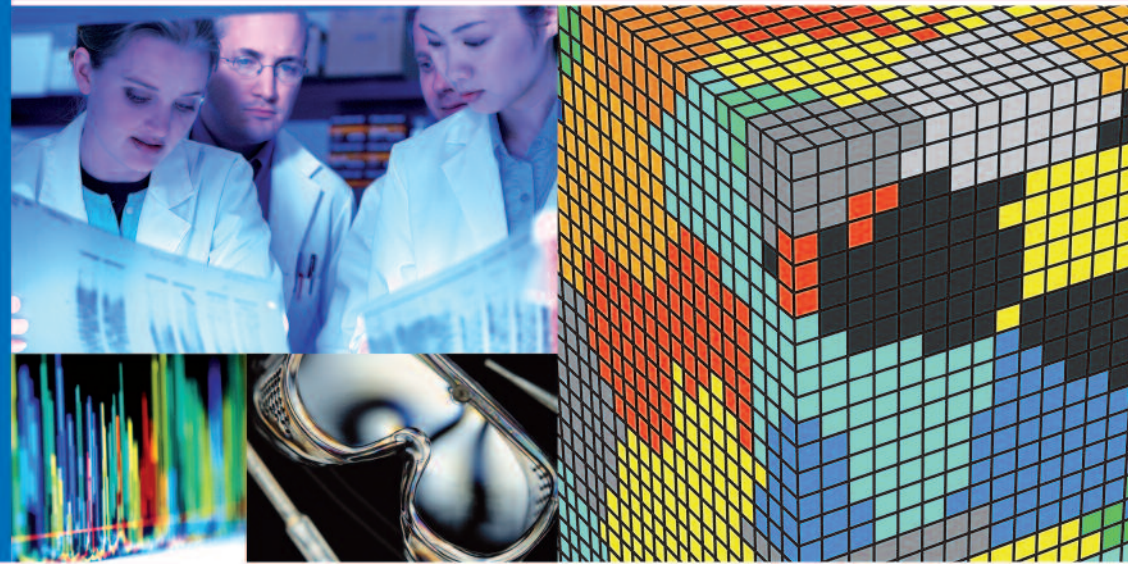
Telephone: \_\_\_\_\_

Email Address: \_\_\_\_\_

How did you hear about this workshop? \_\_\_\_\_

Invoices will be issued on receipt of completed forms.  
Buffet lunch is provided each day so please notify us of any special  
dietary requirements.

# Continuing Professional Development in Manufacturing, Materials & Management



Candidates successfully completing the  
MSc Programme will meet the required  
standards for registration with EC (UK)  
and IOM3 Chartered Engineer status.

Supported by



The Region's  
Development Agency

## Steel Products and Applications 3 Day Workshop

**NAMTEC**  
Swinden House, Moorgate Road, Rotherham S60 3AR  
Tel: 01709 724990 [www.namtec.co.uk](http://www.namtec.co.uk)



SHARPENS YOUR THINKING



SHARPENS YOUR THINKING



# Steel Products and Applications

## Workshop Details

Start time: 8.30 am each day

Finish: 6.30 pm each day



This module can be studied as part of the MSc Manufacturing, Materials and Management Programme or as an individual module for people needing this specific technical knowledge.

The course is run in partnership with Sheffield Hallam University. It is an intensive three day workshop which, if successfully completed and assessed will gain 15 credits towards a Post Graduate qualification from the Materials Manufacturing and Management programme.

### MODULE AIMS:

- To describe and explain how the extensive range of steel types available are utilised by design engineers in a wide variety of applications, including identification of how the steel chemistry and processing are controlled to achieve the desired properties.
- To demonstrate how the different mechanical property requirements associated with the example applications can be predicted using metallurgical modelling.
- To provide information about the concepts of structural integrity and post processing operations such as welding and fabrication, and to demonstrate how these are essential considerations in selecting the steels used for specific applications.
- To verify that the student can make an informed decision about the steel chemistry and processing required to achieve the design criteria for specific steel product applications.

### WHO SHOULD ATTEND

Graduates in science, engineering or technology who are working in the metals manufacturing sector and wish to expand their knowledge on the range of steel products available and the technical considerations which are made in their production and subsequent in service use.

Entrants who do not have a first degree, but can demonstrate that they have the equivalent academic, professional and personal capabilities can be interviewed to assess their suitability for the course.



### MODULE LEARNING OUTCOMES

By the end of the module you will be able to:

- Select and explain the different process routes used to produce the different product forms, such as plate, strip, rod/wire and rail, and be able to demonstrate how changes in process routes and steel chemistry influence basic mechanical properties such as strength, toughness, ductility etc.
- Appraise the basic principles of structural integrity and to select the fitness for purpose property requirements for products in a wide range of applications.
- Critically discuss post production processes such as fabrication (welding/joining) and select the key metallurgical parameters that influence the steels' fitness for purpose.
- Be able to critically discuss how the principles of physical metallurgy can be used to design chemistries and process routes to produce steels of the designed form and properties for given applications.

### INDICATIVE MODULE CONTENTS

The module topics will include:

Refresher lectures on:-

- The metallurgy, deformation and processing of a wide range of steel products.
- The joining and fabrication of steels.
- The basics of structural integrity and in-service performance criteria.

Critical evaluation of the uses and metallurgical and property requirements of a wide range of steel products, such as plates, strip, rail and rod/wire. Typical application examples will be discussed such as pipelines, bridges, ships, offshore structures.

Demonstrations of the use of computer models that aid optimum design of steel chemistry and processing using metallurgical and rolling theory for specific applications, e.g. IMPress for plate rolling and RODEO for rod rolling.

Examples of poor steel selection and use and its consequences.

The module is studied typically over an 8 week period which incorporates a 3 day workshop run at NAMTEC, Swinden House, Conference Centre, Moorgate, Rotherham S60 3AR

### FURTHER INFORMATION ABOUT THIS MODULE

- Further/additional information is available to support this module, including assessment criteria detailing how your performance in the module will be measured, how you will receive feedback, details of learning resources and key readings.
- This information can be found in **Module handbook and reading list**.
- Note that this additional information may be subject to change from year to year.

### VENUE

NAMTEC is located in Swinden House, conveniently located close to both the M1 and M18. See [www.namtec.co.uk](http://www.namtec.co.uk) for directions

