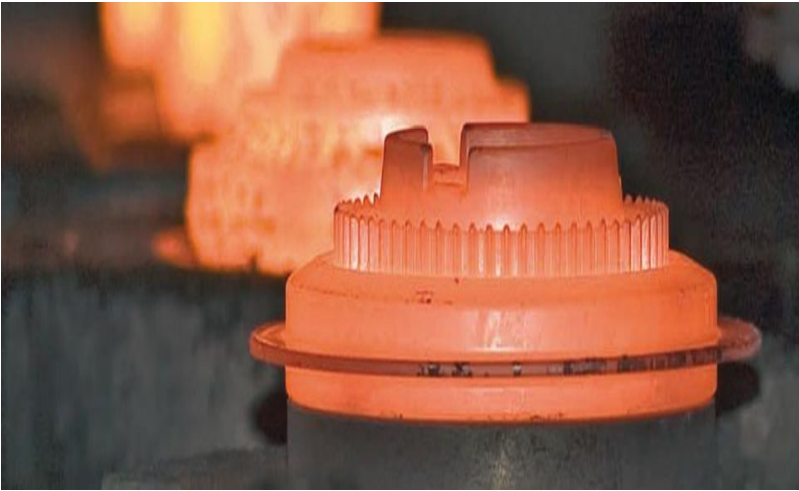


TRAINING COURSE ON METAL PROCESSES: PRINCIPLE AND TECHNIQUES 22-23 AUGUST 2023



Assoc. Prof. Dr. Nurulakmal Mohd Sharif
&
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INTRODUCTION

Processing of metals involves a number of methods with different principles, as the form of metal during production is different (liquid, solid), different behaviour (liquid solidify to solid, deformation behavior, etc) and different techniques of forming metals into shape along with the different level of complexities in design which also influence the processing parameters and technique. The shaping and production of steel are critical to product design, application, cost and performance. The wrong selection of processing method, or the wrong parameter used could result in malfunction or under-performed components. Thus, understanding of the principle and techniques available for metal processing is vital in ensuring the steel product can be produced according to the intended requirement and suited to the applications. This is an introductory course suitable for those who have little or no technical background in metallurgy. It is perfect for those handling steel products (casting, powder metallurgy, metal deformation) in order to give better understanding of what happens during the process and how it can be manipulated or improved. Basic understanding of the processing principles is also significant for trouble shooting of manufacturing process.

COURSE CONTENTS

- Module 1 – Basic Metallurgy: Structure and properties, mechanical behaviour of metals
- Module 2 – Casting: Principles, parameters and common defects
- Module 3 – Powder metallurgy
- Module 4 – Metal Deformation: Bulk (rolling, forging and wire drawing, and sheet metal working
- Module 5 – Secondary processes: Joining, surface treatment

SYNOPSIS

This course covers a review of basic metallurgy, mechanical behaviour of metals, before looking at the major processing methods for metal components; casting, powder metallurgy, bulk metal deformation (rolling, forging, extrusion, wire drawing), and then sheet metal forming. Towards the end of training course, a brief review of secondary processes (joining and surface treatment) will be given. In each of these techniques, the principle behind process and the important parameters that need to be controlled will be covered.

WHO SHOULD ATTEND

This course is beneficial for designers, engineers, and managers involved in manufacturing process, tooling design/maintenance, quality check/process control, and development of new materials. The course is especially of interest to engineers who are involved in production of metal components, assembly of components, or users of metal components (components supplied by vendor).

REGISTRATION FEE AND ADMINISTRATIVE DETAILS

Members / Non-Members: RM1,500 per participant
Deadline For Registration: 18 August 2023 (Friday)

No refund will be entertained although participants can be substituted at any time.
The organizer reserves the right to cancel, reschedule, postpone or amend the course date/venue/programme, due to unforeseen circumstances.

ORGANISED BY: MALAYSIAN IRON AND STEEL INDUSTRY FEDERATION (MISIF)
SUPPORTED BY: SOUTH EAST ASIA IRON AND STEEL INSTITUTE (SEASI)

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DATE AND VENUE

Date : **22-23 August 2023 (Tuesday-Wednesday)**
Time : **9.00 a.m. – 5.30 p.m. (Daily)**
Venue : **MISIF Training Room, Shah Alam, Selangor**

SKIM BANTUAN LATIHAN

Companies registered with HRD Corp can apply for refund under Skim Bantuan Latihan (SBL) Scheme.

ABOUT THE TRAINERS (HRDC Certified Trainers):

Assoc. Prof. Dr. Nurulakmal Mohd Sharif joined USM Engineering Campus in 2001 after completing her PhD in Materials Engineering (Metallurgy) from University of Wales Swansea, United Kingdom. She is currently an Assoc. Professor at School of Materials & Mineral Resources Engineering, USM. She has obtained several grants from USM, JICA, MOHE, MOSTI and CREST to develop alloys for high temperature application, metal composites, development of lead-free solder alloy and metal coating. She was a member of the MLVK advisory board (Steel making & Foundry) (2007), MARA advisory board (Electroplating Technology Certificate and Diploma in Foundry) (2011) and also has conducted many training courses for MISIF, Intel, KOBE Precision, Kilang Sprocket, Southern Steel, KPTEch and others. Consultation works include heat treatment on steel, microstructure studies and recycling of solid waste into valuable product.

Assoc. Prof. Ts. Ir. Dr. Anasyida Abu Seman is a lecturer at School of Materials and Mineral Resources Engineering, USM Engineering Campus since 2010. She has completed her PhD in Materials Science from Universiti Kebangsaan Malaysia. Her research interest includes casting, severe plastic deformation, metal coating, welding, wear and soldering. Previously she worked as senior process engineer in Flex (formerly known as Solectron) for about 6 years. She has obtained several grants from USM, MOHE, AUNSEED/Net and MOSTI to develop aluminium composite, semi-solid aluminium alloy, friction stir welding, and ultrafine grained structure for aluminium and steel. In term of supervision, she graduated 18 postgraduate students as main and co-supervisor. She also actively giving technical talk to several industries such as Southern Steel, Kobe and MISIF.

REGISTRATION FORM

Please register the following person/s for the “**TRAINING COURSE**”.

PLEASE TYPE IN BLOCK LETTERS:-

- NAME:** _____ **DESIGNATION:** _____
EMAIL: _____ **TEL NO:** _____
- NAME:** _____ **DESIGNATION:** _____
EMAIL: _____ **TEL NO:** _____
- NAME:** _____ **DESIGNATION:** _____
EMAIL: _____ **TEL NO:** _____

SUBMITTED BY: _____

DESIGNATION: _____ **EMAIL ADDRESS:** _____

COMPANY NAME: _____ **TEL NO:** _____

ADDRESS: _____

FOR INFORMATION

Ms. Norlian Mohamed Najib

MALAYSIAN IRON & STEEL INDUSTRY FEDERATION (MISIF)

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Jalan Tinju 13/50, Section 13, 40675 Shah Alam, Selangor

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