

WSQ Precision Engineering Framework

WSQ COURSE TITLE	: Perform Engineering Simulation for the Aerospace Industry
WSQ COURSE CODE	: PE-MP-363E-1
PRODUCT COURSE TITLE	: 1. Introduction to ANSYS ICEM CFD
	: 2. ANSYS Workbench Mechanical – Structural Dynamics
	: 3. ANSYS CFD Advanced – Turbulent Flow
	: 4. ANSYS CFD Advanced – Rotating Machinery
DURATION	: 8 x 8hrs sessions

*** Singaporeans and Permanent Residents may receive up to 90% funding on course fees from the Singapore Workforce Development (WDA). Terms and conditions apply.**

- This training course is creditable for professional development units (PDUs) by the Professional Engineers Board, Singapore (PEB) under their Continuing Professional Development (CPD) program.
- Students will be awarded a Statement of Attainment (SOA) by WDA upon course completion.

OBJECTIVES

This module, focusing primarily on applications in the Aerospace industry, is recommended for engineers who wish to perform engineering analyses related to Aerospace products and processes. The standard stipulates how to:

1. Perform advanced geometry preparation and meshing
2. Analyze the dynamics of structures, including modal analysis, harmonic response analysis and analyzing the effects of random vibration on a structure
3. Perform turbulent flow analyses with optimum turbulence simulation strategy.
4. Analyze rotating machinery simulations through the use of the single reference frame (SRF) model, multiple reference frame (MRF) model, and sliding mesh model (SMM)

WHO SHOULD ATTEND

This training course is intended for engineers in the Aerospace industry who are required to perform engineering simulation to validate their designs.

CAD-IT CONSULTANTS (ASIA) PTE LTD

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PRE-REQUISITES

Engineering knowledge is required. Familiarity with computer (PC or workstation) and knowledge of Computer Aided Engineering (CAE) are useful.

Participants must have completed the following courses:

- [Apply Engineering Simulation Fundamentals](#)
- [Perform Structural Simulation For Design Verification](#)
- [Perform CFD Simulation For Design Verification](#)

COURSE SYLLABUS

- Create geometry
- Shell Meshing
- Volume Meshing
- Prism Meshing
- Generate Mesh and Output to Solver
- Hexa Meshing
- Basic Structural Dynamics
- Modal Analysis
- Harmonic Analysis
- Response Spectrum Analysis
- Transient Structural Analysis
- Fundamentals of Turbulence Flow Modeling
- Turbulence Simulation Strategy
- Turbulent Flow Simulation
- Fundamentals of Rotating Machinery
- Single Reference Rframe (SRF)
- Multiple Reference Frame (MRF)
- Sliding Mesh (SMM)
- Post-Processing for Rotating Machinery Analysis

Each course chapter is followed by "hands-on" workshops and exercises.

About the Singapore Workforce Development Agency (WDA)

For Singapore's workforce to remain competitive and employable in today's fast changing workplace, they must have knowledge and skills that are relevant, current and sought after by employers to meet the changing needs of Singapore's economy. In response to these needs, WDA was formed to help companies build capabilities and remain competitive so as to contribute to stronger economic growth for Singapore.

For more information, please visit <http://app2.wda.gov.sg/web/Common/homepage.aspx>.

About the Professional Engineers Board, Singapore (PEB)

Established in 1971, the Professional Engineers Board, Singapore (PEB) is a statutory board in the Ministry of National Development. PEB aims to set and maintain high standards for registering professional engineers, and to regulate and advance the practice of professional engineering.

For more information, please visit <http://app.peb.gov.sg/>.

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