

## WSQ Precision Engineering Framework

WSQ COURSE TITLE	: Apply Engineering Simulation Fundamentals
WSQ COURSE CODE	: PE-MP-353E-1
PRODUCT COURSE TITLE	: 1. ANSYS Workbench – DesignModeler
	: 2. Introduction to ANSYS SpaceClaim Direct Modeler
	: 3. ANSYS Workbench – Meshing Application Introduction
DURATION	: 5 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.

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### OBJECTIVES

This module highlights the best practices of finite element analysis. It stipulates how to create and modify geometry in preparation for analysis, as well as generate quality mesh for their finite element analysis (FEA) and/or computational fluid dynamics (CFD) simulations.

### WHO SHOULD ATTEND

This training course is intended for engineers who are required to create and modify geometry, as well as to generate mesh for their FEA or CFD simulations.

### PRE-REQUISITES

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

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CAD-IT CONSULTANTS (ASIA) PTE LTD

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## **COURSE SYLLABUS**

- Finite Element Analysis Best Practices
- Introduction to Modeling
- Planes and Sketches
- 3D Geometry Operations
- Geometry Clean-up & Repair
- Mid-Surface Extraction (Mechanical)
- CAD Connections and Parameterization
- Pull/Move/Combine/Fill operations
- Sketch operations
- Component/structure Management
- Volume Extract
- Rounds Removing
- Dimensioning
- Interference Check
- Split Faces
- Model Repair
- Surface Replace
- Introduction to Meshing
- Meshing Methods
- Global Mesh Settings
- Local Mesh Settings
- Mesh Quality Check

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

## **RECOMMENDED FOLLOW-ON COURSES**

Depending on the student's interests and applications, one or both of the following modules may be taken after the completion of this course:

- [Perform Structural Simulation For Design Verification](#) (Course Code : PE-MP-354E-1)
- [Perform CFD Simulation For Design Verification](#) (Course Code : PE-MP-355E-1)

### **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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