

# S110S: SAP2000 v15 Hands-On Training

## COURSE OBJECTIVES

This short course aims to provide engineers with an overview of the fundamentals and capabilities of SAP2000 for Structural Analysis and Design of typical Structures including both Reinforced concrete and Steel. The course will cover primarily linear and static analysis but will cover some aspects of non-linear and dynamic analysis at an introductory level.

## COURSE OUTLINE

### Introduction to SAP2000 system

- Overview of SAP2000 v15 GUI system
- Understand SAP2000 analysis and design capability
- Workflow in SAP2000

### Modelling of frame structures

- Overview of 1D FE objects (DOF & Meshing)
- Loadings and elements forces on frame elements
- Frame insertion points
- Joint modelling (rigid zone, end-length offset and deformable panel zone)
- Constraints (Rigid Diaphragm, Body, Equal)
- Understanding Steel Frame Design with Direct Analysis Method

### Modelling of floor/wall systems

- Overview of 2D FE objects (Membrane, Plate & Shell)
- Elements forces and stresses
- Loadings
  - Floor (FEM vs. "Yield-line" method)
  - Wall loading through Joint Pattern
- Meshing of 2D FE elements
- Constraints (Auto-line constraints)
- Stiffness modifier
  - Cracked section properties
  - 1-way load transfer for slab

### Advanced Modelling and Analysis

- Beam Slab Interaction
- Stage Construction
- Buckling Analysis
- PT tendons as forces or elements
- Cable elements with automatic initial profile
- Modelling of a Highway (Box Girder) Bridge with Bridge Modeller

### Hands-on Examples

- Simple Steel Bridge with RC deck
- Steel Framed Factory type building with RC 1st storey
- Staged Construction for Underground structure
- Buckling analysis for a Thin Shell Cylinder structure
- Staged Construction for Precast Framing

Register by 28 Nov 2011 to enjoy  
**EARLY-BIRD Rate**

## SPEAKER PROFILE

**CHOO JUNE SHYAN P.E.**  
MSCE, MPW, BSCE  
M.ASCE (USA), M.SEI (USA), MIES, MSSSS



Er. Choo is a Singapore Registered Professional Engineer with many years of consulting experience both in Singapore & USA. In USA, he was a consultant with Dietrich Industries, Inc. and designed many Light-gage steel frame structures scattered over USA. He also spearheaded Dietrich Industries's first IT project worth USD4 millions which enable their engineers to model, analyze and design any steel structures in 3D with automatic shop drawing generation. In Singapore, he was a consultant at CPG Consultants Pte Ltd where he designed and supervised many building projects.

He is currently the Technical Director of Otte International Pte Ltd, which specializes in advanced and innovative IT solutions for Building, Structural and Geotechnical Engineering professionals. He has extensive experience in computer-aided analysis and design with advanced engineering software. He has conducted numerous training courses and seminars in Singapore and overseas.

Er. Choo graduated with Master of Public Works, Master of Science in Civil Engineering with a Full Academic Merit Scholarship from University of Pittsburgh, Pittsburgh, Pennsylvania, USA. He was awarded the Chi Epsilon (National Civil Engineering Honor Society, (USA) scholarship in the Metropolitan District, the National Dean's List and School of Engineering Dean's List in his undergraduate studies in the same university.



## COURSE INFORMATION

### S110S: SAP2000 v15 Hands-On Training

**Date:** 8th & 9th Dec 2011 (Thu & Fri)  
**Time:** 9:00 a.m. - 6:00 p.m.  
**Venue:** New Horizons, 298 Tiong Bahru Road, Level 18 Central Plaza, Singapore 168730  
**Fee:** **Early-bird registrations received by 28 Nov 2011:**

**SUM Subscribers: S\$727.60** (Incl. 7% GST)

**Non SUM Subscribers: S\$856.00** (Incl. 7% GST)

**For registrations received after 28 Nov 2011:**

**SUM Subscribers: S\$781.10** (Incl. 7% GST)

**Non SUM Subscribers: S\$941.60** (Incl. 7% GST)



#### Terms and Conditions

- a) Seats are limited. Registration is on a first-come-first-served basis. Training places will be confirmed upon receipt of payment.
- b) All cancellation of registration must be made in writing. If you are unable to attend...
  - i) you will receive 90% refund of the registration fee if cancellation is received in writing more than 14 days before the event.
  - ii) you will receive 75% refund of the registration fee if cancellation is received in writing within 7 - 14 days before the event.
- c) Cancellations will not be accepted within 7 days of the course start date. However, a substitute delegate is welcome at no additional charge.

## REGISTRATION FORM

**Organization:** ..... **Department:** .....

**Address:** .....

**Person in charge (Dr/Mr/Ms):** ..... **Job Title:** .....

**Email:** ..... **Tel (O):** ..... **(HP):** ..... **Fax:** .....

Participants' Names: <small>Please write clearly as it will be printed on the Certificate of Completion</small>	PE No.:	Job Title:	Email:	Tea breaks	
				Vegetarian	Halal
(Dr/Mr/Ms) .....	.....	.....	.....	<input type="checkbox"/>	<input type="checkbox"/>
(Dr/Mr/Ms) .....	.....	.....	.....	<input type="checkbox"/>	<input type="checkbox"/>
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(Dr/Mr/Ms) .....	.....	.....	.....	<input type="checkbox"/>	<input type="checkbox"/>
(Dr/Mr/Ms) .....	.....	.....	.....	<input type="checkbox"/>	<input type="checkbox"/>

I hereby agree to abide by the terms and conditions stated above.

(Signature & Company Stamp)

**Please fax the completed registration form to: 6483 3363**

An **invoice & confirmation email** will be sent to you upon receipt of your fax registration.

For enquiries, please contact us at (Tel) **6483 3323** or (Email) **training@ottegroup.com**