

# **Certification Course for Structural Steel Engineer (StEr) – 22nd Intake**

*Date: 09 January 2023 to 16 February 2023*

*Physical Course + Physical Venue Exam*



## **Course Objective**

This course is conducted by the Singapore Structural Steel Society (SSSS) to prepare and update practising engineers in the design and construction of steel structures. This course complements the existing Certification Course for Structural Steel Supervisors (StS). The course is open to all who wish to gain knowledge in the design and safety aspects of steel construction. \*Eligible and successful participants of the course may register as qualified Structural Steel Engineers with SSSS for the purpose of meeting the manpower requirement under the Steel Fabricators Accreditation Scheme.

The course objectives:

- Enhance safety, quality and technical know-how in structural steel design and construction
- Keep abreast of evolving design procedures and standards
- Provide continuing professional development to support mandatory registration for practising certificates for all qualified Structural Steel Supervisors
- Train engineers to work as Structural Steel Engineer specialists

## **Who Should Attend**

The course is open to all and recommended for C&S engineers, architects, M&E engineers contractors, specialist sub-contractors and suppliers, to gain knowledge in the design and safety aspects of steel construction.

## **Requirements to attain StEr Practising Certificate**

Participants who meet the following requirements will attain the StEr Practising Certificate upon completion of the course and passing of the written exam:

- A StS Certificate holder registered with the Singapore Structural Steel Society (SSSS) who is a Professional Engineer (Civil/Mechanical/Structural).
- A StS Certificate holder registered with the Singapore Structural Steel Society (SSSS) and a Degree in Civil/Structural/Building with Engineering Content/ Mechanical/Marine/ Aeronautical Engineering recognised by the Professional Engineer Board of Singapore (PEB) or Building & Construction Authority (BCA) and the candidate must have at least 2 years of relevant working experience in the Steel Industry.

### **Contact Details:**

Please send your completed registration form and registration fees to: Singapore Structural Steel Society  
60 Albert Street #10-06, OG Albert Complex, Singapore 189969  
T 6337 0338 F 6336 2583 E [sssspd@cma.sg](mailto:sssspd@cma.sg) W [www.ssss.org.sg](http://www.ssss.org.sg)

- A StS Certificate holder registered with the Singapore Structural Steel Society (SSSS) and a Degree in Civil/Structural/Building with Engineering Content/ Mechanical/Marine/ Aeronautical Engineering from other institution and the candidate must have at least 3 years of relevant working experience in the Steel Industry.

### **Accreditation**

The course attracts 27 PDUs for PEB and 12 STUs for IES (for RTO/RE)

### **Use of Abbreviation**

Certified Structural Steel Engineers may use the abbreviation StEr after their names.

### **Renewal of StEr Certificate**

The Practising Certificate (PC) is valid for two years. Structural Steel Engineer who wishes to renew his/her bi-yearly PC must engage in professional development work and a continuing education program comprising of relevant technical meetings, courses, conferences or seminars equivalent to at least 15 credit points or 15 'PDUs'.

### **Course Topics**

#### **Part 1. Basic Steel Design**

*With the special emphasis on design and construction of structural steel members, safety issues, member stability and overall frame stability, and how to avoid collapse during construction.*

- Overall view on Eurocode 3
- Local buckling and section classification
- Restrained beams
- Use of design tables
- Unrestrained beams
- Web bearing and buckling
- Plate girders
- Use of design tables
- Tension members
- Compression members
- Members subject to compression and moments
- Use of design tables
- Simple frames
- Multistorey frames
- Portal frames
- Braces and ties
- Workshop – Basic steel design & Examination 1

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## **Part 2. Structural Bolted and Welded Joints & Composite Design**

*With special emphasis on design of steel connections and joints.*

- Bolted Connections
- Welded Connections
- Composite beams & composite slab
- Composite Column Design using BC4
- Examination 2

### **Course Instructors**

**Professor Er. Richard Liew,**  
National University of Singapore

**Associate Professor Er. Chiew Sing Ping**  
Singapore Institute of Technology

### **Assessment & Certification**

- Participants will be based on phased examinations conducted in 2 parts over the course duration.
- Participants who have achieved a minimum of 75% attendance and passed the examinations will be issued with a Certificate of Successful Completion of the course. For those who do not wish to sit for the examinations, but have attended at least 75% of lessons will be issued with a Certificate of Accomplishment.
- Participants who are not successful in the any of the examinations will be allowed to take a re-test.

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# Certification Course for Structural Steel Engineer (StEr) – 22<sup>nd</sup> Intake

09 January 2023 to 16 February 2023

Venue: Physical Classes + Physical Venue Exam

## REGISTRATION FORM

Name: \_\_\_\_\_ (Mr/Mrs/Ms)  
(First Name) (Last Name)

Name to be Printed on Certificate: \_\_\_\_\_

PE/ RE/ RTO No: \_\_\_\_\_ Designation: \_\_\_\_\_  
*(Please circle one)*

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

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

Country: \_\_\_\_\_ Postal Code: \_\_\_\_\_

Telephone/ Mobile: \_\_\_\_\_ Facsimile: \_\_\_\_\_

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

Highest Academic Qualifications: \_\_\_\_\_

Note: All applications should be accompanied by photocopies of **Degree Certificates & CV/Resume.**

### Please answer the following questions:

1. Are you a Professional Engineer (Civil/Mechanical/Structural)?

**YES.** SKIP to question 6. PE No.: \_\_\_\_\_  **NO.** Proceed to question 2.

Please refer to StEr  
Course flowchart for  
more information.

2. Do you have a degree in Civil/Structural/ Building with Engineering Content/ Mechanical / Marine / Aeronautical Engineering recognized by PE Board or BCA?

**YES.** Proceed to question 3.  **NO.** SKIP to question 4.

3. Do you have at least 2 years of working experience in steel industry?

**YES.** SKIP to question 6.  **NO.** Proceed to question 4.

4. Do you have a degree in Civil/Structural/ Building/ Mechanical/Marine/ Aeronautical Engineering from other universities?

**YES.** Proceed to question 5.  **NO.** You are entitled to obtain **Certificate of Attendance.**

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5. Do you have at least 3 years of working experience in steel industry?

**YES.** Proceed to question 6.

**NO.** You are entitled to obtain  
**Certificate of Attendance.**

6. Have you taken and passed the StS Course?

**YES.** You will get StEr Practicing  
Certificate. Proceed to **PAYMENT.**

**NO.** You are entitled to obtain  
**Certificate of Attendance.**

Remark: Please complete StS Course before applying for the StEr  
course

StS No: \_\_\_\_\_

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**PAYMENT**

- SSSS Member** \$1250 SSSS Membership No: \_\_\_\_\_
- Non-SSSS Member** \$1400

**Note:** All registrations are on a first-come-first-served basis. Only completed registrations with full payment will be accepted into the course. Invoice will be issued upon receipt and payment.

**Cancellation and Refund Policy:**

Cancellations/Withdrawals on or before **18 November 2022** will receive 50% refund. Cancellations/Withdrawals on or after **19 December 2022** will not be refunded. Transfer of Registration fees to another person is acceptable. The full name and details of the person that will replace you must be advised in writing to the Secretariat by **30 November 2022**. No refunds will be made for non-attendance at the Course.

Payment will be made by:

- My Company**     **Myself**

*Please indicate your mode of payment accordingly:*

**BANK TRANSFER** *Please contact Secretariat for the bank details.*

**CHEQUE/BANK DRAFT** made payable to "**Singapore Structural Steel Society**"

Cheque No: \_\_\_\_\_ Issuing Bank: \_\_\_\_\_

**CREDIT CARD**  
*Please contact Secretariat for the bank details*

Note: Credit card facility is managed by  
CMA International Consultants Pte Ltd

\_\_\_\_\_  
**Signature**

\_\_\_\_\_  
**Date & Company's Stamp**

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## CERTIFICATION COURSE FOR STRUCTURAL STEEL ENGINEER (StEr) - 22nd Intake

**Course Dates:** 09 January 2023 to 16 February 2023  
**Time:** 7.00pm -10.00pm  
**Course Duration:** 30 Hours  
**Venue:** Physical Classes + Physical Exam

### Programme

#### Part 1 - Basic Steel Design

Date	Time	Topic	Lecturer
09 January 2023 (Monday)	7.00pm - 10.00pm	<b>Lecture 1</b> ·Overall view on Eurocode 3 ·Local buckling and section classification ·Restrained Beams ·Use of Design Tables	Prof. Chiew Sing-Ping
12 January 2023 (Thursday)	7.00pm - 10.00pm	<b>Lecture 2</b> ·Unrestrained Beams ·Web Bearing and Buckling ·Plate Girders ·Use of Design Tables	Prof. Chiew Sing-Ping
16 January 2023 (Monday)	7.00pm - 10.00pm	<b>Lecture 3</b> ·Tension Members ·Compression Members ·Members subject to compression and moments ·Use of Design Table	Prof. Chiew Sing-Ping
19 January 2023 (Thursday)	7.00pm - 10.00pm	<b>Lecture 4</b> ·Simple Frames ·Multistorey Frames ·Portal Frames Braces & Ties	Prof. Chiew Sing-Ping
30 January 2023 (Monday)	7.00pm - 10.00pm	<b>Lecture 5</b> ·Workshop - Basic Steel Design <b>Examination 1</b>	Prof. Chiew Sing-Ping

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**Part 2 - Structural Bolted and Welded Joints & Composite Design**

<b>Date</b>	<b>Time</b>	<b>Topic</b>	<b>Lecturer</b>
02 February 2023 (Thursday)	7.00pm - 10.00pm	<b><u>Lecture 6</u></b> · Bolted Connections · Bolt detailing · Hand tightened bolts, Friction Grip bolts · Design of bolt groups · Simple joint vs Rigid Joints · Case Studies	Prof. Richard Liew
07 February 2023 (Tuesday)	7.00pm - 10.00pm	<b><u>Lecture 7</u></b> · Welded Connections · Detailing Requirements · Carbon equivalent value and weldability · Avoidance of weld defects · Fillet welds · Full and partial strength butt welds · Design of welds groups · Welding of hollow section · Case Studies	Prof. Richard Liew
09 February 2023 (Thursday)	7.00pm - 10.00pm	<b><u>Lecture 8</u></b> · Composite Beams · Shear Connectors & Composite Slab	Prof. Richard Liew
14 February 2023 (Tuesday)	7.00pm - 10.00pm	<b><u>Lecture 9</u></b> Composite Column Design using BC4	Prof. Richard Liew
16 February 2023 (Thursday)	7.00pm - 10.00pm	<b><u>Lecture 10</u></b> Examination 2	Prof. Richard Liew

Note: The above programme is subject to change. Course Secretary will inform you via email if there are any changes.

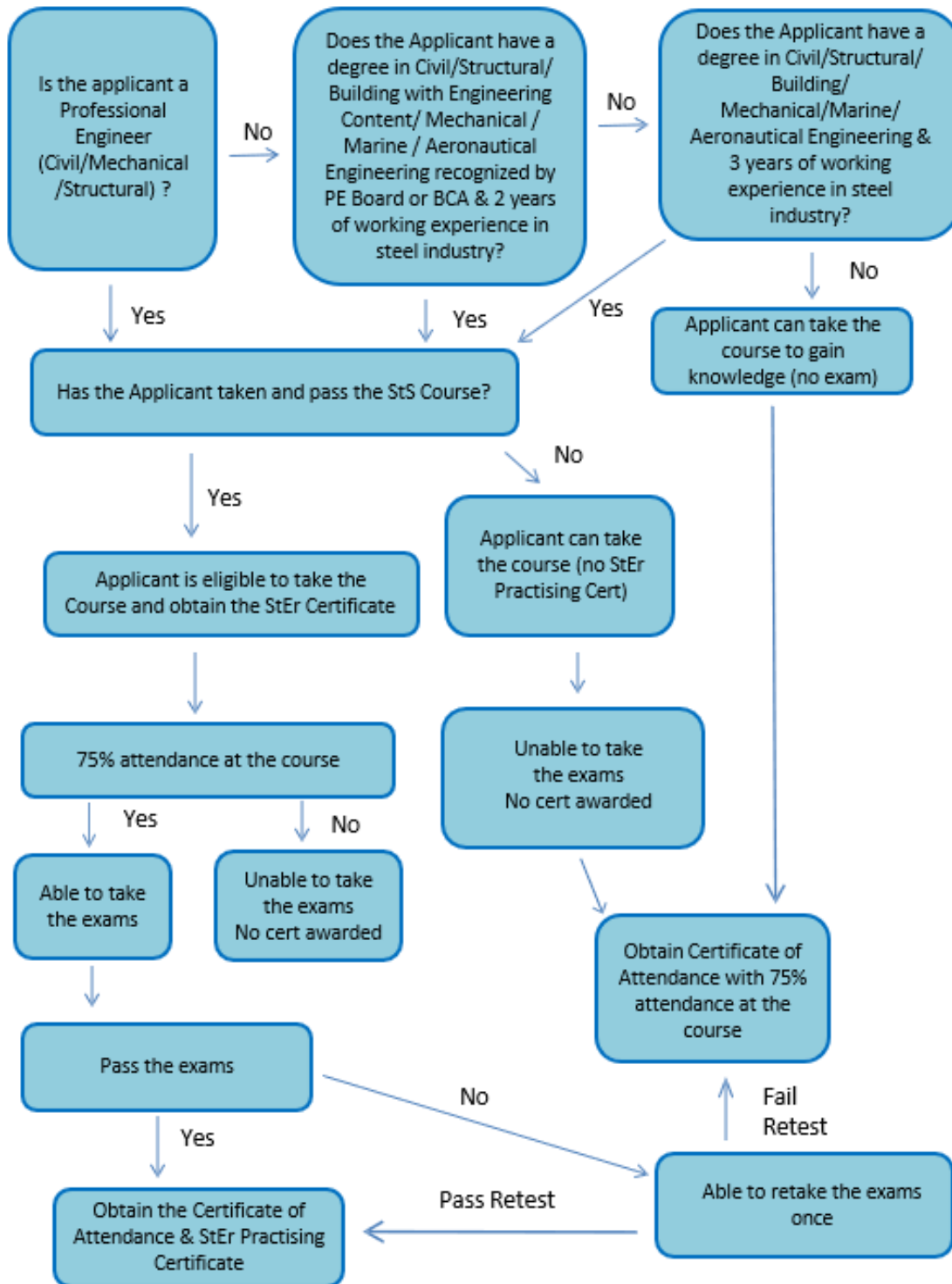
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# Flowchart for StEr Course



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