TRAINING

SCIAENGINEER

SCIA ENGINEER – ADVANCED TRAINING CONCRETE (2 DAYS)

Description

This two-day course focuses on the advanced principles of the **concrete calculations**. It clarifies the application of 1D and 2D elements (beams, columns, plates, walls and shells) on the basis of **practical examples**. The training is geared to more **advanced users**.

During this course, the participants will receives answers to:

- what is the difference in the calculation between beams and columns?
- How to add practical reinforcement?
- Which checks are performed?
- how does the software calculates the long-term deflection?
- the backgrounds of the punching check

What knowledge will you obtain?

Our Customer Service Engineer will guide the participants step by step in the application, so that each of them can perform and check a concrete design in a quick and efficient way. The acquired knowledge gives the confidence to:

- perform a reinforcement design of beams and plates in the most simple and efficient manner, and interpret these results in correct way
- link the practical use of the concrete modules of SCIA Engineer with the theoretical background of the Eurocode
- perform more advanced calculations, such as long-term deformations (CDD = Code Dependent Deformations) and physical non-linear calculations (PNL = Physical Non Linear)

Program

Materials

- explanation of the material properties of Eurocode 2
- backgrounds to the used stress-strain diagram

Beams

- determination of the theoretical reinforcement
- how to add practical reinforcement
- which checks are integrated
- method of the automatic reinforcement design

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Columns

- principle of the single and double flexion
- method for the determination of the geometric imperfections
- how to take 2nd order effects into account

Plates

- explain the different calculation values in the theoretical reinforcement design
- inclusion of the crack control in the design

CDD calculation (long-term deformation)

- method to create concrete combinations
- calculation of creep effect

PNL calculation (physical non linear)

- which elements are important for this calculation
- consult the adjusted stiffness's

Punching check

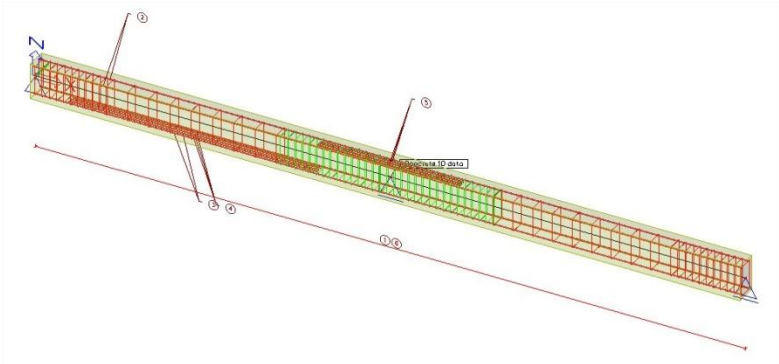
- how to check if punching reinforcement is needed
- is it necessary to allocate punching data to each node

Pressure only 2D elements

- what to take into account when modeling concrete or masonry walls
- how to view and interpret the results of the calculation

Fire resistance

- subject treated according to the interests of the participants
- brief explanation on how to use the fire resistance check



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Working method

The training is provided by an experienced engineer from the Customer Service Department of SCIA. To guarantee the interaction between the participants and the trainer, the course is given for a small group of up to 8 people.

Each **participant will use the software** and will put the different topics of the course immediately into practice, under the supervision of the trainer. At the end of the training you will have the necessary knowledge to **use the parts discussed in an autonomous and efficient way**.

At the beginning of the training, each participant will receive a **syllabus**. This includes a detailed explanation of the different functionalities and treated examples.

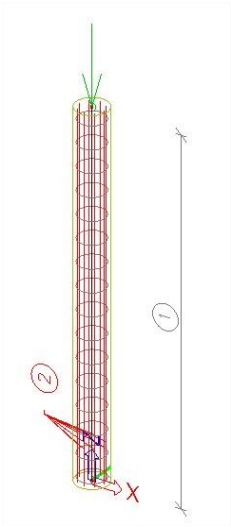
After the training, the companies who do not have the ability to use all the features discussed in the license of the software, will have the opportunity to request a free try-out license which is valid for 30 days.

Prerequisites

This course is intended for more experienced users with the necessary general knowledge of structural design.

Certificate

Each participant will receive an official SCIA Engineer “Advanced training Concrete” certificate at the end of the training, signed by the trainer.



***Disclaimer**: The content of the training may be modified without notification (11/2015).*

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