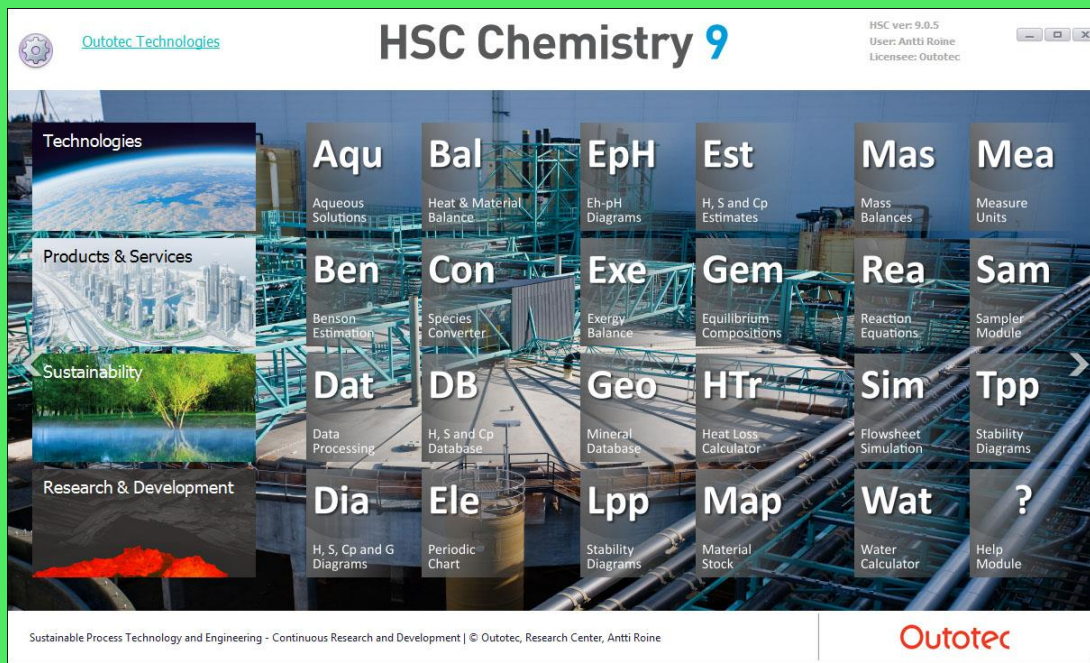


P Kobylin, M Hietala, T Kotiranta, A Remes,
A Roine

Training Courses Tokyo 2019

HSC Chemistry 9 Training



HSC Chemistry 9 courses in Tokyo, Japan, in November 2019

Get more out of your HSC software and join up to eight instructor-led HSC courses at Pori on November 11 - 13. Do not miss this opportunity to learn from the experts. Confirm your reservation by **October 15, 2019**, at the latest.

Three different courses are available. We recommend everyone to start with the HSC Basic course, since this information is needed in the more advanced courses.

Course Topic	Dates
HSC Basic and Equilibrium	November 11, 2019
HSC Sim Basics intro	November 12, 2019
HSC Sim Basics workshop	November 13, 2019

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Pre-requisites for the participants

- The official language of the courses is English with a translator to Japanese.
- All participants must bring their own laptops with Windows 7, 8, or 10.
- A fast laptop with at least 6 GB memory and at least 4 GB free hard disk space is needed.
- External mouse is recommended for flowsheet drawing.
- The latest HSC version will be installed on the laptops and temporary user licenses are available for the participants. **NOTE: Participants must have full administrative rights for their computers to allow HSC installation.**
- Participants can test calculation examples on their PC, ask questions at any time, or just follow the presentations.

Daily schedule outline

Time	Topic
9:00	Course starts
10:30-10:45	Coffee break
10:45	Course continues
12:00-13:00	Lunch break
13:00	Course continues
15:00-15:15	Coffee break
15:15	Course continues
17:00	Course ends

Venue

Courtyard Tokyo Ginza Hotel (Marriott)
November 11-13, 2019
Courtyard Tokyo Ginza Hotel (Marriott) L'osire D'or (B1F) 6-14-10 Giza, Chuo-ku (Link) Tokyo, 104-0061 Japan https://www.marriott.com/hotels/travel/tyocy-courtyard-tokyo-ginza-hotel/ https://www.tobuhotel.co.jp/ginza/

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Pricing

500 EUR per day per participant (VAT 0%). It is possible to participate for one day only. However, it is recommended to take the whole course, because this will help you get the maximum benefit from HSC.

The total fixed price of the course covers:

- The selected HSC training course
- Printed course material for all the participants
- Course workshop cases in printed and electronic form
- 30-day license for latest version of HSC for all participants
- Course certificates (will be sent to the participants after the course)
- Lunches and refreshments

Registration and payment information

- a) Register online at <http://www.hsc-chemistry.com/webshop&subcat=8>
- b) Register via Booking Form
Download the [HSC Course Booking Form](#).
Email the filled and signed form to:

HSC Team

Outotec, Research Center
P.O. Box 69, FIN-28101 Pori, Finland
hsc@outotec.com

Payment can be made by bank transfer or by credit card – online registration only (VISA, MasterCard, Eurocard, or Amex).

Note: No refunds will be made for cancellations, unless the organizer cancels the whole course.

Bank Transfer (for purchase orders):

Outotec (Finland) Oy
Bank: Nordea Bank Oyj
Address: Satamaradankatu 5, 00020 Helsinki,
Finland
Account (IBAN): FI82 1571 3000 0169 99
Swift: NDEAFIHH

Cancellation and refund policy

No refunds will be made for cancellations, unless the whole course is cancelled by the organizer.

Further information

www.outotec.com/hsc
www.hsc-chemistry.com

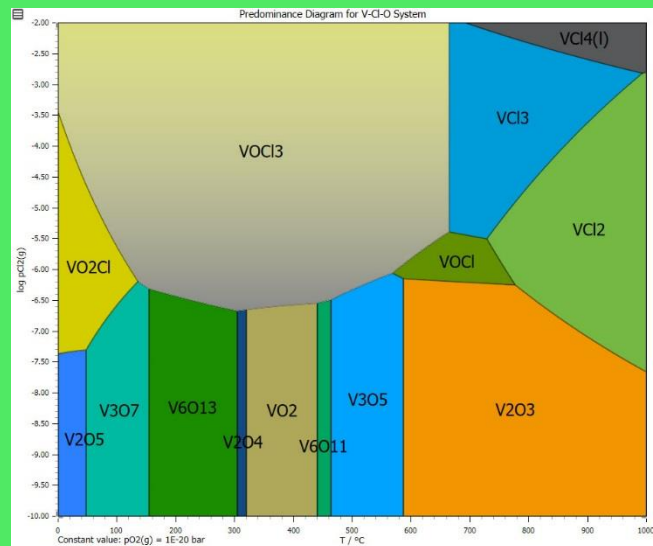
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HSC 9 Basic and Equilibrium Course – 1 Day

The HSC Basic course focuses on the general information that is needed to specify a practical problem in the 23 calculation modules, run the calculations, and analyze the results. Participants will learn what can be done with the HSC package and some ideas on what cannot be done. These skills are also needed in the more advanced HSC Equilibrium, Hydro, Pyro, and Mineral Processing courses.

Equilibrium calculations offer a practical way to observe the effects on product composition of process variables, such as temperature and amounts of raw materials.



Most HSC users utilize perhaps only 1-2 of the HSC calculation modules. This course will help users to understand the capabilities of all 23 calculation modules and 12 databases. This course also provides an understanding of the potential applications of HSC.

The target of the Basic HSC Course is to teach the participants what can be done with the HSC package and what cannot be done. The course will focus on the most common questions and problems raised by HSC users over the last few years.

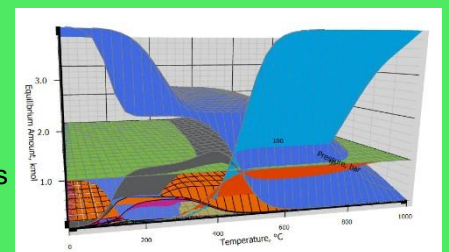
This course gives an overview of the basic HSC operation principles and the major procedures needed to solve more complicated problems with the HSC software. The course will also illustrate thermochemistry application possibilities in practical problems.

The Basic Course is intended for beginners and intermediate users. However, even more advanced users may find it useful, because they will have the opportunity to raise questions concerning more difficult issues.

The Equilibrium module is one of the most commonly used HSC tools, because it can be applied to many different areas. The target of this course is to acquire the versatile skills required to use and create Equilibrium applications and analyze the results.

The HSC Basic and Equilibrium course covers general issues, but also more specific topics like:

- General information required in most of the HSC modules
- Basic concept, HSC internal structure, user interface issues, etc.
- Some basic principles of thermochemistry related to HSC
- Internal structure of the HSC databases, chemical formula syntax, etc.
- Specification of phases and species, etc.
- Demonstration of the HSC calculation modules with workshop examples
- Specification of chemical system and raw materials
- High temperature and water solution applications with workshop



Lecturer: Matti Hietala

Matti is one of the scientific advisors behind the HSC development project with expertise in physical chemistry. His main role is management of HSC Sim development.

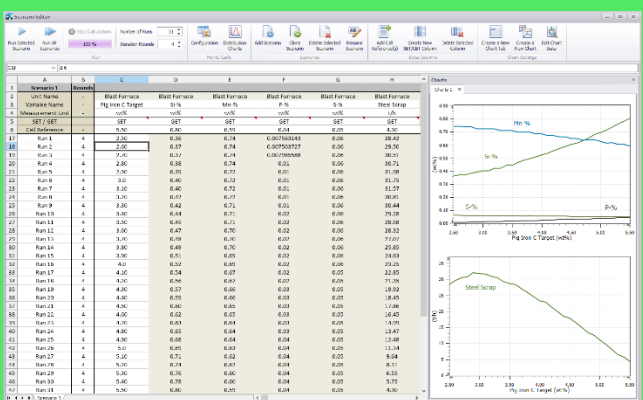
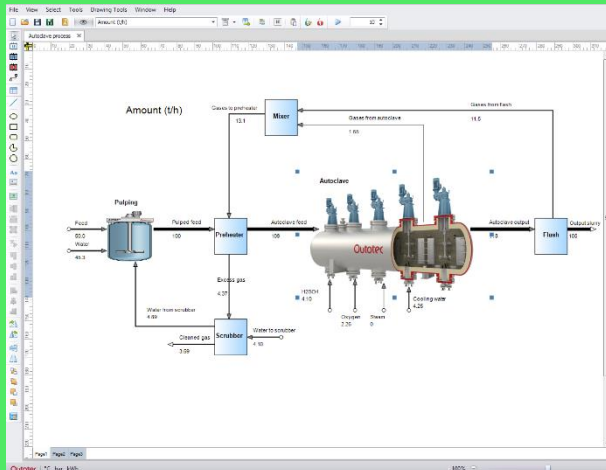
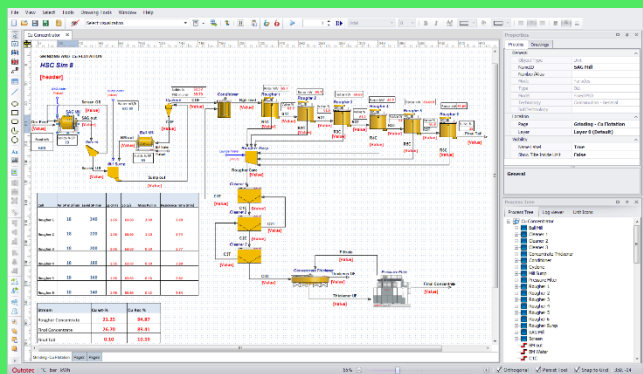
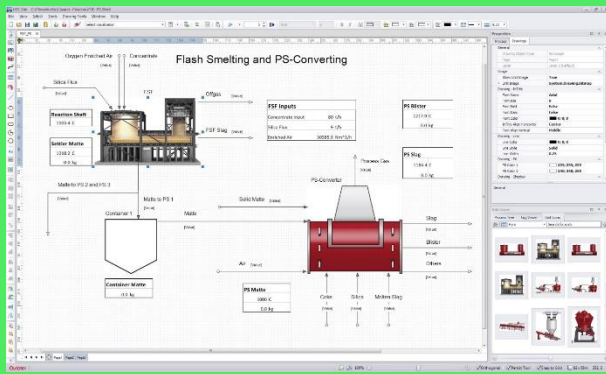
HSC Sim Basics – 2 Days

First Day Content

- Introduction to Sim
- Introduction to basic tools in Sim
- Flowsheet drawing and editing
- Using different units in flowsheet
- Basic example of elemental distribution unit operation
- Basic example of reaction unit operation
- Basic example of minerals processing unit operation
- Creating calculation scenarios

Second Day Content

- Workshop how to create Sim models



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