

# Fast Trak™ training and education

DEV4



## Bioprocess scale-up and technology transfer

*Duration: 3 days*

### Course description

Understand advanced late stage process development, scale-up, and transfer. This course will cover process design and optimization for production. It will provide an introduction to validation and column packing. The importance of safety and economic issues related to automation will also be discussed.

You will optimize conditions in a two-step process and work on maintaining separation performance at increasing scales. Group exercises and discussions will focus on "real-life" scale-up issues, complementing the hands-on work.

- Focus on smooth scale-up, well-prepared technical transfer, and the use of chromatography as a manufacturing tool
- Process design, optimization, management, and economy
- Practicals: separation of yeast glucoamylase isozymes at lab-, pilot-, and manufacturing-scale via desalting and ion exchange chromatography

### Who should attend?

- R&D scientists or engineers who need to learn more about scale-up, scale-down, and operation of chromatographic methods in a production environment
- Scientists at either end of the transfer process, from lab to production and QA/QC, who need to understand the pitfalls and critical issues

### After the course, you will be able to:

- Understand the theory and practice of scaling up chromatographic processes
- Identify critical issues that impact final production performance and economics of bioprocessing
- Suggest improvements for increased productivity, efficiency, effectiveness, and economy

### Topics covered

- Process design and optimization
- Scale-up and technical transfer of chromatography and filtration
- Process management, economy, and hygiene
- Qualification
- Validation
- Optimization of chromatography experiments
- Lab- and pilot-scale verification runs
- Final-scale runs
- Scale-up case study exercise

## 2022 pricing

Fast Trak™ Center	List Price	Product Code
USA, Marlborough	3888 USD	29031039
Sweden, Uppsala	3240 EUR	29030947
India, Bangalore	Contact us	29099331
Korea, Songdo	2 500 000 KRW	29244579
China, Shanghai	17 747 CNY	29012011

## General course information

Fast Trak™ Education is one means by which Cytiva provides application training in the various aspects of bioprocessing. The courses are designed to provide a learning experience for process development and manufacturing staff.

Fast Trak™ offers training courses on column packing, basic chromatography, optimization and scale-up for both pilot and production scales. We also offer courses on validation issues and chromatography theory. The courses are offered in a variety of formats to meet your unique learning needs, including lab-based courses, live virtual classes, self-paced e-learning courses, and custom courses that can be delivered at your premises.

### Cancellation policy

In case you need to cancel your registration, the following charges will apply:

- 30 to 21 days prior to course: 50% of course fee
- 20 to 8 days prior to course: 80% of course fee
- 7 days or less prior to course: 100% of course fee

If you are unable to attend after registered, you may send a colleague in your place or attend another course.

Cytiva reserves the right to modify course location, course material, substitute speakers, or to cancel the course. If the course is cancelled, registrants will be notified as soon as possible and will receive a full refund of paid fees. Cytiva will not be responsible for airfare penalties or other costs incurred due to a course cancellation.

### Course certificate

Upon completion of the course, each participant receives a course certificate in which course name and course date is stated.

### Course evaluation

At the end of each course, you will be asked to fill in a course evaluation form. We value your opinion of the course, the speakers, the material, and presentations and use this feedback to continuously improve the courses and their contents.

## **Travel and hotel costs**

Travel and hotel costs are not included in the course price.

## **Language**

Standard courses are held in English at Fast Trak™ Centers in USA, Sweden, India, Singapore and Korea, unless otherwise specified. In China, most courses are in Mandarin with occasional courses in English. The courses in Germany are held in German and English, and courses in Japan are held in Japanese. Customized courses can be presented in other languages. Please contact your local Fast Trak™ center for more information.

## **Lunches**

All lunches during course days are included in the course prices.

## **Material in binders**

Each course participant will receive the lectures and other relevant material in a binder.

## **Requirements for safety level S1 (L1) laboratories**

Every course participant who enters our laboratories for the practical sessions must comply with certain safety requirements. Please notice that open-toe shoes are not allowed in the lab. Obligatory protective clothing and safety devices will be provided.

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