

Courses at NTNU NanoLab

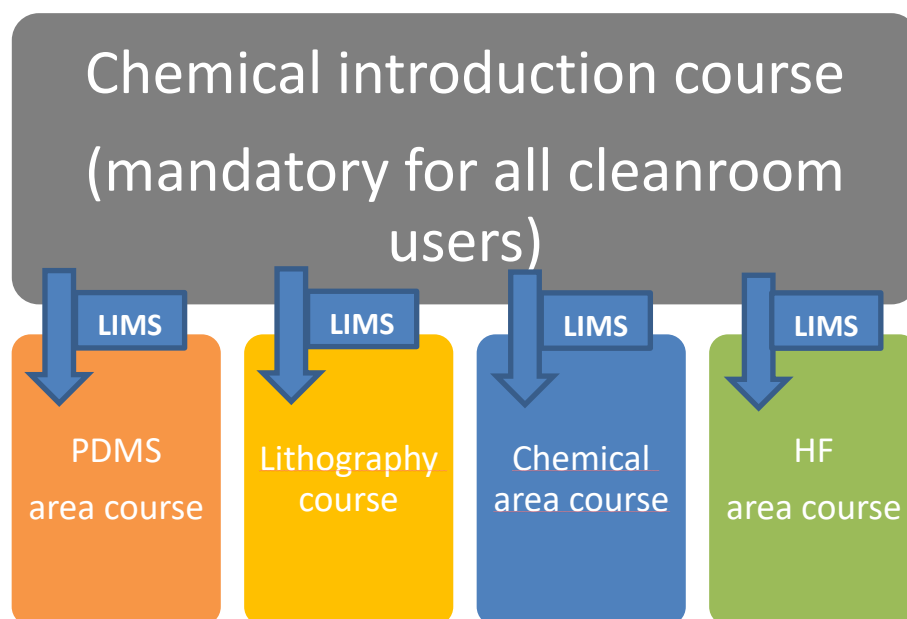
- Signing up for “Cleanroom course” and “Chemical introduction course”: Send an email to nanolab@ntnu.no at least 5 working days before the course.
- Signing up for other courses: Click “Apply” in LIMS to apply for instrument license/area course at least 5 working days before the course starts. If you are not a LIMS user, register at ntnu.norfab.no
- Information about course place and time is sent out to all participants 5 working days before the course.
- Applicants who have sent in an activity form are prioritized for instrument courses. When starting an activity, we will tell you which courses you need, in case you are uncertain. Please see ntnu.norfab.no on how to start an activity. No login required.
- Extra course occasions may be added if many users apply for training.

Cleanroom course

On demand or when minimum number of participants are filled. The first course of the semester will start around week 3.

Chemical introduction course

Storage, waste handling and administrative guidelines. Mandatory for all users. This is an online course.



Area courses

After an area course, you know where to find everything you need in the area, and special working procedures in that area. It is mandatory to work in an area.

Lithography area course

Scheduled on request

Duration: 5 hours

Online course + practical exam

Comment: Mandatory for work with siloxanes (PDMS) and silanes. Participation in the chemical introduction course is a prerequisite.

Chemical area course

Scheduled on request

Duration: 1 hour

Comment: Mandatory for work in the chemical area. Participation in the chemical introduction course is a prerequisite, but exceptions might apply for some of the characterization tools.

PDMS-area course

Scheduled on request

Duration: 0.5 hours

Chemistry courses

Intensive courses to make your chemistry work safer and more efficient.

HF course

Scheduled on request

Duration: 3 hours (theory and practical session) + 1 hour practical exam

Comment: Mandatory for work with hydrofluoric acid. Participation in the chemical introduction course is a prerequisite.

HF buddy course

Scheduled on request

Duration: 3 hours (theory and practical session)

Comment: This course will not give you license to work with HF, but is mandatory if you want to be buddy for someone working with hydrofluoric acid. Participation in the chemical introduction is a prerequisite.

Wet etch course

Scheduled on request

Duration: 1 hours

Comment: Highly recommended for work with wet etches other than HF. Participation in the chemical introduction course is a prerequisite. Depending on where you will perform wet etch, an area course is required.

Instrument courses

Instrument courses are scheduled on request.
Instruments that are not listed here are listed at ntnu.norfab.no.

Lithography

Electron beam lithography (Elionix)

Scheduled on request
Duration: 5 hours for two days. First day is training. Second day is self-training.

Maskless aligner MLA 150

Scheduled on request
Duration: 2 hours

Thin film

AJA sputter and evaporator

Scheduled on request
Duration: 5 hours

E-beam evaporator

Scheduled on request
Duration: 3 hours
Lesker or Pfeiffer depending on needs

PECVD

Scheduled on request
Duration: 3-5 hours depending on process

Dry Etch

ICP-RIE for Fluor/Chlorine

Not yet installed
Duration: 3-5 hours depending on process.

Deep Si Etcher

Not yet installed
Duration: TBA

HF release Etcher

Not yet installed
Duration: TBA

Characterization

AFM, Dimension ICON

Scheduled on request
Duration: 3-4 hours

Focused Ion Beam (FIB G2)

Scheduled on request
Duration: 4+4+1 hours of practical sessions

Focused Ion Beam (FIB G4)

Must have experience on FIB G2 to get training
Duration: 3-4 hours of practical session

SEM APREO

Scheduled on request
Duration: 4 hours

S(T)EM

Scheduled on request
Duration: 3+2+1 hours of practical sessions

Micro-Raman spectroscopy

Scheduled on request
Duration: 2 hours

Nanosight

Scheduled on request
Duration: 3 hours

Particle size analyzer

Scheduled on request
Duration: 1 hour

NanoDrop UV-Vis

Scheduled on request
Duration: 1 hour

Drop Shape Analyzer (DSA)

Scheduled on request
Duration: 3 hours