

Information for course coordinators and teachers, autumn 2020

This document contains:

- instructions to help course coordinators and teachers to design and conduct their teaching during the autumn semester 2020. Issues such as quality, safety and feasibility have been taken into account as much as possible. Even teachers' workload under these special circumstances have been considered.
- safety measures to reduce the risk of the spread of infection associated with lab teaching.
- a list of the courses at the Section of Chemistry, with theory and lab components and their formats (web-based vs. campus).

Theory classes (lectures, tutorials, seminars etc.)

In accordance with the decision issued by the Vice-Chancellor,¹ and the TekNat Faculty for its implementation,² theory classes on campus are only allowed for certain courses, in order to allow for physical distancing in campus areas (in addition to within the classrooms).

In summary, **only the following courses may hold theory classes on campus**, on condition that group sizes are under 50 students, efforts for physical distancing are made, and measures to minimise the risk for the spread of infection are taken:

- Courses in the first semester in Year 1 of degree programs (Master Year 1, period 1 will also be offered in web-based format).
- Preparatory year and semester ("basår/bastermin").

For course-specific descriptions at the Section of Chemistry, see the last page of this document.

With these restrictions, small classes (e.g. tutorials, seminars, lectures with group size below 50) in these courses can be held on campus. The timetabling unit will book suitable classrooms to allow physical distancing. Course coordinators are asked to check that their assigned rooms are suitable for the classes in question.³

All theory classes in other courses are to be web-based, unless there are special reasons.⁴

Technical equipment (e.g. conference cameras) will be installed in classrooms during the summer to facilitate streaming and recording of classes. Teachers will be updated when the Section receives more detailed information about this. Advice and tips for web-based teaching can be found on [The Staff Portalen](#), [the homepage for the Council for Educational Development \(TUR\)](#), as well as the Section of Chemistry pages on [tools for distance education](#) and [digital resources on the web for chemistry teaching](#). [Jolla Kullgren](#) (Å) and [Francoise](#)

¹ UFV 2020/656, 2020-06-09

² TEKNAT 2020/173, 2020-06-16

³ The size and equipment in the classrooms can be found by clicking on the room in the TimeEdit schedule.

⁴ Such exceptions need to be approved by the course examiner as well as the Head of Department (restrictions on class size and physical distancing still apply)

[Mathieu](#) (BMC) are also available to provide technical support, in their capacity as the departmental "satellites" for supporting digital teaching.

Laboratory classes

Since laboratory skills are a cornerstone of chemistry education, our ambition is to maintain laboratory teaching in our courses as much as possible. These will be held on campus, with due regard for infection risks as well as workloads for both teachers and students. However, having in mind possible crowding in computer rooms and possible timetabling difficulties, **computer labs should be conducted web-based where possible.**

Having regard to safety and resource issues, lab teaching in autumn 2020 will be conducted according to the following general principles:

- **Labs will be filled to 50% capacity at most** (e.g. max 8 students plus the lab teacher in a lab normal for 16 students).
- **The usual timetable will be kept as much as possible** (already complete for period 1, in progress for period 2).

Course coordinators, in consultation with other teachers on the course, are responsible for designing and implementing the necessary changes to the lab classes, using one or more of the following alternatives:

- **Shorten lab classes on campus** so that they can be conducted in half the time (e.g. a 6 hour lab converted to 3 hours to allow it to be run twice the same day). These campus classes should be **supplemented by pre- and post-lab work outside of campus** (e.g. more extensive experiment planning, calculations, report writing), potentially also with supporting teacher-led sessions via Zoom (e.g. drop-in sessions for questions).
- For labs where the **work is done in pairs, the students could work in shifts** where there are suitable breaks in the lab class, with specific plans for hand-over between students to ensure each student is still able to get a coherent picture of the lab exercise as a whole. Students change place with each other during these breaks in the class, with the aim that each student conduct in total about an equal amount of the practical work.
- In exceptional cases and if permitted by the course syllabus, a lab class may be converted to a web-based lab (recorded material, analysing datasets etc.). The Director of Studies are to be consulted for such cases. Risk assessment are nevertheless to be conducted as if the experiments were done on campus, as part of students' laboratory training.

Note that measures for minimising the risk for the spread of infection are to be taken for all laboratory classes on campus (see the safety measures on the next pages).

Safety measures for laboratory classes having regard to covid-19

A list of risks associated with conducting laboratory classes on campus are listed below. Read these carefully and apply the suitable measures for your course. There may be other specific risks related to the spread of infection for your particular course that are not listed here. Consult with the lab engineers if necessary.

Lack of awareness among students about the rules and recommendations from public authorities, UU and the TekNat Faculty regarding covid-19.

Measures

Information to be sent in advance by course coordinators to lab teachers and students, as well as communicated to students at the start of lab classes.

- **regarding current recommendations** concerning physical distancing and reducing the risk of the spread of infection

DECISION 2020-06-09 UU UFV 2020/656 Measures in response to the spread of Covid-19 disease: "Efforts must be made to ensure physical spacing (social distancing) in all teaching, examinations and other meetings."

DECISION 2020-06-16 TEKNAT 2020/173 Teaching and examination at the Faculty of Science and Technology from 16 June 2020: "laboratories and other practical components of all courses (the point above excepted) can be carried out on campus on condition that measures for minimising the risk of the spread of infection are taken."

- **regarding specific measures** that are taken for the specific laboratory to be carried out, such as physical distancing and other measures listed below.

The risk assessment to be filled in by students before lab classes shall include a section about risks associated with the spread of infection during that session, as well as protective measures to be taken.

Crowding during passage in and out of laboratories (locked corridor), including during breaks and lunch

Measures

Students to be asked avoid crowding and keep distance at all times. Access to labs to be adapted also (e.g. opening labs earlier) to minimise contact.

Lab teachers shall call on all students to comply with recommendations on physical distancing, including the time during breaks, lunch and when moving between different locations.

Crowding in laboratories

Measures

Fewer students than normal will be allowed to be in each laboratory at the same time (e.g. at most 8 students for a laboratory normally for 16 students) in order to allow for physical distancing in the laboratory.

Crowding during specific moments during a lab class

Queues for the use of communal equipment (e.g. for weighing and measurements)

Measures

Students will be allowed to use equipment one by one and must maintain appropriate physical distance while waiting. This may mean that only one student at a time are allowed to be present in a confined space e.g. weighing rooms.

Apply if possible a one-way system for moving in and out of confined spaces, to avoid the need for crossing paths.

Use of communal space/equipment

Measures

After lab class, benches, goggles and instruments to be cleaned with alcohol solutions.

Hand sanitiser dispensers to be placed in laboratories.

Students to be recommended to use other available protective equipment.

The borrowing of lab coats shall be kept at a minimum. Such lab coats are not to be shared between students in order reduce the risk of spreading infection.

Glossory: *Kursnamn:* Course name; *Kurskod:* Course code; *Laboration:* lab classes; *Teori:* theory; *Nätbaserat:* web-based; *samt:* as well as.

Kursnamn	Kurskod	Laborationer*	Teori
Aktuella trender i kemien	1KB467	Campus samt Nätbaserat	Campus** samt Nätbaserat
Analytisk kemi I	1KB105	Campus	Nätbaserat
Analytisk kemi med mätvärdesbeh. och kemom.	1KB103	Campus	Nätbaserat
Analytisk spektroskopi	1KB160	Campus	Nätbaserat
Avancerad masspektrometri	1KB159	Campus	Nätbaserat
Batterier och lagring	1KB274	Campus samt Nätbaserat	Campus** samt Nätbaserat
Beräkningskemi för biologiska makromolekyler	1KB431	Campus	Nätbaserat
Biofysikalisk kemi	1KB468	Campus samt Nätbaserat	Campus** samt Nätbaserat
Biokemi III	1KB418	Campus	Nätbaserat
Biokemisk teknik	1KB428	Campus	Nätbaserat
Biomedicinsk teknik - biomaterial och design	1KB259	Campus	Nätbaserat
Biosensorer	1KB446	Campus	Nätbaserat
Biotechnisk metodik	1KB426	Campus	Nätbaserat
Enzymologi och bioorganisk katalys	1KB424	Campus	Nätbaserat
Fasta tillståndets kemi	1KB211	Campus	Nätbaserat
Fysik för kemister	1KB302	Campus	Nätbaserat
Fysikalisk kemi	1KB301/308	Campus	Nätbaserat
Fysikalisk kemi I	1KB309	Campus	Nätbaserat
Grundläggande kemi	1KB007	Campus	Campus**
Industriell organisk kemi	1KB414	Campus	Nätbaserat
Kemi för förnybar energi - profilkurs	1KB763	Campus	Nätbaserat
Kemisk apparatteknik	1KB705	Campus	Nätbaserat
Kemisk bindning med beräkningskemi	1KB550	Campus	Nätbaserat
Kemisk energilagring	1KB269	Campus	Nätbaserat
Kemisk energiomvandling och energilagring	1KB352	Campus	Nätbaserat
Kemisk fysik	1KB700	Campus	Nätbaserat
Kemiska principer I	1KB000	Campus	Campus**
Koordinations- och metallorganisk kemi	1KB464	Campus	Nätbaserat
Kvantmekanik och kemisk bindning II	1KB502	Campus	Nätbaserat
Laserspektroskopi	1KB766	Campus	Nätbaserat
Material för hållbar utveckling	1KB268	Campus	Nätbaserat
Materialkemi	1KB210	Campus	Nätbaserat
Materialtillverkning I	1KB281	Campus	Nätbaserat
Miljö kemi	1KB110	Campus	Nätbaserat
Miljöteknik	1KB704	Campus	Nätbaserat
Moderna metoder för organisk syntes	1KB443	Campus	Nätbaserat
Molekylär bioteknik för produktion	1KB769	Campus	Nätbaserat
Molekylära material	1KB360	Campus	Nätbaserat
Nanobioteknik	1KB457	Campus	Nätbaserat
NMR-spektroskopi I	1KB469	Campus	Nätbaserat
Organisk kemi I	1KB410	Campus	Campus**
Organisk syntes	1KB451	Campus	Nätbaserat
Organisk-kemisk spektroskopi	1KB465	Campus	Nätbaserat
Preparativ organisk kemi	1KB444	Campus	Nätbaserat
Processteknisk modellering	1KB756/759	Campus	Nätbaserat
Projekt i utveckling av biologiska läkemedel	1KB430	Campus	Nätbaserat
Proteiner och läkemedel	1KB423	Campus	Nätbaserat
Proteiners struktur och funktion	1KB422	Campus	Nätbaserat
Proteomik och metabolomik	1KB162	Campus	Nätbaserat
Spektroskopi	1KB750	Campus samt Nätbaserat	Campus** samt Nätbaserat
Statistisk termod. - teori och simuleringsmetoder	1KB362	Campus	Nätbaserat
Teoretisk kemi - profilkurs	1KB556	Campus	Nätbaserat
Termodynamiska principer	1KB009	Campus	Nätbaserat
Tillämpad analys av komplexa prover	1KB154	Campus	Nätbaserat
Yt- och kolloidkemi	1KB303	Campus	Nätbaserat
Ytors fysik och kemi	1KB260	Campus	Nätbaserat

* Computer labs: off-campus if possible

** Theory classes: campus teaching replaced with web-based if the group (including teacher) would exceed 50 people.