



Information on
UNIS Labs
Before Arrival

Welcome to the UNIS labs.

We would like to give you some information prior to your arrival at UNIS so that things go smoothly for you once you are here. Our goal is to provide a user-friendly experience with a high emphasis on safety.

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NB: If you are coming to Longyearbyen to participate in a UNIS course as a student, you do not need to act on anything you read in this document in advance, although the information may still be useful. Your professor will make all arrangements.

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Lab Team

We currently have 3 members of lab staff in our team. Please direct general enquiries about lab use to lab@unis.no.

Lab Manager

Gerd Irene Sigernes

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Technician (Arctic Biology Dept)

Stuart Thomson

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Technician

Hana Špičková

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Costs

There is no cost to use the labs for UNIS courses and internally funded projects.

Externally funded projects and projects with no affiliation to UNIS are charged a bench fee at a rate of 240 NOK per hour, plus 800 NOK per hour if you require technician time.

We cannot guarantee technician time as we have limited resources. UNIS courses are always our top priority. Please enquire with us.

Please contact lab@unis.no for enquiries related to external projects or if you are unsure if you need to pay bench fees.

Labs

Teaching Lab

We have a large general-purpose lab, which we call the teaching lab, that is used for courses. It is equipped with bench space to comfortably seat 18 students, fume hoods, drying ovens, a microbiological safety cabinet (MBSC), a range of balances (weighing scales) capable of measuring between 10 ug and 5 kilos, shakers, a PH/conductivity meter, a centrifuge for 15ml/50ml falcon tubes, shaking tables, a MixerMill homogenizer, and a muffle furnace. Additional equipment can be moved into the lab as and when needed for your course or research. Basic PPE equipment is available at the lab including lab coats, safety goggles, latex/nitrile gloves, and protective shoes.

There are also basic laboratory supplies that are freely available for use including lab glassware, petri dishes, syringes, falcon tubes, ziplock bags, paper sample bags, plastic sample containers, microscope slides and cover glasses, and more.

We ask that if you will use large quantities of one type of consumable, that you inform us, and we can charge your UNIS project number to renew the supply. Smaller quantities are covered by the general lab budget for internal projects and courses. External projects must pay for consumables they use.

We do our best to keep stock levels up but sometimes supplies run low. Check with us before your arrival that we have the supplies you need. Remember in Svalbard it can take several weeks for deliveries to arrive.

The priority access to this lab is always for UNIS courses. Outside of course hours the lab can be used by others and a booking is required to do this. To enquire or book the teaching lab please send an email to Gerd Irene (non-course activity). Courses book the lab via Student Administration.

When your time slot ends, please tidy the lab to leave it as you found it. Remove your equipment. Contact lab staff to take a round of the lab with a technician for quality control. We have busy schedules in the teaching lab, and it is important for the next course to arrive with the lab ready for use.

Research Labs

We have dedicated research labs with wide ranging capabilities that are organized by scientific department. We will work with you and UNIS scientific staff to find the best location for you to work.

Please see the end of this document for information on our individual research labs.

HSE Briefing

[Contact us in advance of your intended starting date to arrange a HSE briefing.](#)

Before starting work in any of our labs (even if you have used UNIS labs on a previous visit), you are required to take an Environmental Health and Safety (HSE) briefing with Stuart or Hana.

The goal is to work together with you to plan your work with a strong focus on safety.

During the HSE briefing we will discuss your work plans, any necessary safety measures, UNIS routines, and emergency procedures.

We will fill out a HSE form together which must be placed in a box by the information display near the reception for the duration of your work. To save yourself time you can print the form before the briefing and fill out as much information as you can in advance. You can find the form on the UNIS website, under *Facilities*, and *Lab Services*.

The duration of the HSE briefing can vary from 5 minutes for simple projects, to an hour or more for higher-risk work.

For work that has the potential to be hazardous, we will require a risk assessment that is approved by Stuart or Hana. We can help you write a risk assessment if necessary.

If your work requires a risk assessment, please bring along any protocols or procedures you have for the work you will do at UNIS – even if they are not written specifically for carrying out the work at UNIS. The more information we have about what you do, the better working experience we can provide you. This also helps UNIS to continually improve our safety considerations.

If you work with hazardous chemicals, Norwegian law requires that this is recorded. We currently use a system called EcoOnline to do this. We will discuss this with you during your HSE briefing.

Contact us to arrange a HSE briefing. Please do so at least a week prior to your start date so we can accommodate your timing needs. NB: For UNIS courses, the course responsible should arrange the HSE brief for the beginning of the first lab session.

Access

All labs at UNIS are access restricted and require authorization via your key card. We will provide access to the lab(s) after your HSE briefing. The teaching lab will be left open during working hours when courses are running.

Waste Handling

There is no waste treatment facility in Longyearbyen and so all waste in the sink goes directly into the fjord.

Therefore, we must be very careful about what goes into the sink. No chemical waste can go down the drains – this includes ethanol.

You can find the UNIS hazardous waste policy on the UNIS website under *Facilities and Lab Services*. The document can be intimidating – if you are unsure about what can or cannot go in the sink, please just ask us.

We separate solid and liquid chemical waste, and also types of chemical waste depending on their properties. Please ask a technician for special waste containers if you will generate chemical waste – you cannot use any old container you find for this because they will be rejected at Avfallsanlegget.

Training Requirements

Liquid nitrogen and dry ice

We require that you complete training before you use dry ice or liquid nitrogen for the first time at UNIS. Contact Stuart or Hana in advance to arrange this. Please set aside an hour of your time for the training.

Scientific instruments

In general, we do not provide training for scientific instruments, but we are able to demonstrate the workings of some commonly used equipment, for example: all the instruments in the teaching lab. Contact us to discuss your needs.

Microscopes

We purchased brand new student microscopes in 2020. We have 20 x Leica DM750 compound light microscopes, and 20 x Leica S9E stereo microscopes.

If you would like to use these microscopes, you must complete a 1.5-hour workshop with us prior to use. Even if you have used microscopes for many years, we ask for your patience in undertaking the course. Our experience shows that the course leads to end users having a better experience and that our microscopes are kept in a high-quality condition for users all year long. Contact us to arrange.

NB: This includes use on UNIS courses. The course responsible should arrange the training on behalf of students.

The DM750 and S9E microscopes cannot be taken out of the building. We have older light microscopes and stereo microscopes which can be used in the field and on cruises. Contact us to arrange if you need microscopes in the field. These older microscopes can be used without a training course. You can also use them inside the building.

End of work

Please clean up your working areas and report to lab staff that you have finished work. We will complete a short checklist together to sign you out of the lab.

NB: This includes use on UNIS courses. Get your students to participate in the cleanup after the course to save yourself time.

Shoes

In many buildings in Longyearbyen, including at UNIS, outside shoes are taken off just inside the door.

However, we require shoes (closed toe – no sandals or crocs) to be worn in the labs, so it is a good idea to bring an extra pair of shoes for that purpose.

We have shoes we can provide if you don't want to bring your own. You can find these outside the Teaching Lab C203.

Ordering

Orders for the lab which will be paid by UNIS projects should go via lab staff. This is a requirement from our accounts department. If you have specific needs for consumables / reagents etc. you can contact us in advance, and we can help facilitate.

Keep in mind that deliveries typically take a couple of weeks, and sometimes a couple of months in the Arctic, so get in touch in good time before you arrive.

We need a 6 digit UNIS project number from you to be able to make purchases on your behalf. We cannot make invoices to send to your institution. In cases where there is no relevant UNIS project number, the best solution is to order via your home institution and use

UNIS address as delivery address. Please contact us in advance if you wish to do this so we know what/when to expect deliveries.

Shipping

We can help facilitate shipping of samples from Svalbard via Pole Position (DHL). Contact Stuart or Hana for more info.

Sample Storage

We have some limited capacity to store samples for you at room temperature, +4 degrees, -20 degrees, and -80 degrees. Priority is given to UNIS projects. Fees will be applied to external projects. Please contact us to discuss if you would like to store samples at UNIS.

Links

You can find links to useful documents on the UNIS website at:
<https://www.unis.no/facilities/lab-services/>

Research Labs

Below is a list of all our research labs and an overview of what the labs are used for. If you are looking for a specific application or instrument you may also find it in the document *UNIS laboratories and instrumentation* on the UNIS website, under *Facilities* and *Lab Services*. Basic PPE is available in all labs.

C205 Sterile Lab

AB Department

Molecular biology lab primarily used for setting up PCR reactions. Microbiology and post PCR applications are also possible. Equipped with standard molecular biology equipment including micropipettes, vortexes, centrifuges, incubators, milliQ and distilled water systems, 3 micro biological safety cabinets, fridge/freezer, and 6 user benches.

Contact: Stuart Thomson / Anna Vader

C207 AB Instrument Lab

AB Department

Instrument lab with multiple applications. Gel electrophoresis station with UV gel viewer, 3 PCR machines, 2 qPCR machines, Nanodrop, Qubit, a SEAL Quattro nutrient analyser, an Elementar Vario EL cube for carbon nitrogen analysis, and a Hidex liquid scintillation counter (LSC).

Contact: Stuart Thomson

C209 DNA extraction lab

AB Department

Small DNA extraction lab with 2 work benches. Equipped with standard equipment for DNA extraction protocols including vortexer, heat block, microcentrifuge, and centrifuge.

Contact: Stuart Thomson / Anna Vader

C206 AT instrument lab

AT Department

2 Thermo Electron Gas Chromatography Instruments – 2 x Trace GC Ultra plus Focus GC & Polaris Q. Note there is no current technician support (as of 10/22) for these instruments at UNIS, but support is in the pipeline (contact Hana to enquire).

Contact: Gerd Irene Sigernes / Hana Špičková

C208 Chemistry lab for trace analysis

AT Department

Lab operates following specific trace analysis requirements for clean grade of glassware, bench surfaces, equipment inner surfaces etc to avoid sample contamination as compound of interest (often toxic and carcinogenic) concentrations are very low. 3 workplaces with fume hoods (*important for working with toxic organic solvents*). Lab is equipped for sample preparation for organic trace analysis: standard extractors including US bath, SPE, Soxhlet and Erchard extractors, small and large volume solvent evaporators, analytical scales, muffle oven, fridge and freezer for sample storage.

Contact: Gerd Irene Sigernes / Hana Špičková

C210 Seawater Lab

AB Department

Cooled lab equipped with running seawater and large seawater tank. We have running seawater for some parts of the year, usually from July until January when tanks run dry. Inner part of the lab can be kept dark for controlled experiments. Zooplankton microscopy station.

Contact: Stuart Thomson / Janne Søreide

C212 C213 C214 Climate Labs

AB Department

C212 is an outer room for preparation work. C213 and C214 are temperature controlled cool labs, can be set from 0 – 20 degrees. Light regime can be set.

Contact: Stuart Thomson

C216 C217 Cold Labs

AT Department

Cold labs that can be set from -20 – 5 degrees. Used for ice physics experiments mostly. C217 equipped with ice tank (can grow lab ice with regulated boundary conditions) and compression rig (knekkis) to conduct uniaxial compression tests with constant strain rate, creep test with constant load, cyclic tests – max load 10 tonnes).

Contact: Gerd Irene Sigernes

A138 Terrestrial Lab

AB Department

Lab used for study of terrestrial plants and mosses. Equipped with microscopy station, analytical balance, and reasonable bench space.

Contact: Stuart Thomson / Simone Lang

A137 Oceanography Lab

AGF Department

Lab used for water sample analysis. Equipped with instruments to measure alkalinity, pH, dissolved oxygen, and salinity in sea water.

Contact: Gerd Irene Sigernes / Eva Falck

A136/C Filtration Lab

AB Department

Lab is used for seawater filtration for marine organisms. One workspace is a clean station for filtration work which will have downstream molecular applications.

Contact: Stuart Thomson

A136/B Sedimentology Lab

AG Department

Sedimentology lab with multiple applications. Fume hood. Leica MZ16 binocular microscope. Micrometrics SediGraph III particle size analyser. Thermo Scientific Multifuge X3 centrifuge. Refrigerator. 2 Termaks drying ovens. Mettler Toledo fine scale micro balance. 2 heated sonicator baths.

Contact: Gerd Irene Sigernes / Hana Špičková

A136/C Formalin Lab

AB Department

Lab is used for work requiring use of toxic chemicals such as formaldehyde and glutaraldehyde, usually fixations of marine organisms. Equipped with fume hood, and ventilated cabinets for short term sample storage. Chemical fridge for toxic chemicals. Fluorometers for Chl a measurements and point extractor fans.

Contact: Stuart Thomson

Lab Containers

AB Department

1 lab container for terrestrial biology work, equipped with soil fauna extractors (Tullgren funnels & MacFadyen extractor)

1 lab container for radioactive isotope work equipped with fume hood, fridge, vacuum pump, hot work area, clean work area.

Contact: Stuart Thomson