# Permafrost in Arctic Societies course in Sisimiut Greenland

# Application form for April – May 2026

# Please send the form attached by email to Head of Study,

# Asmus Skar Christiansen, email: asska@dtu.dk

# DEADLINE 1 NOVEMBER 2025

# Section 1 – Personal Data

**Full legal name,** as stated in your passport or birth certificate**:**

 First name Middle name Last/Family/Surname

**Country of citizenship**:

**Study ID number at DTU:**

Are you or have you previously been inscribed as a student at DTU?  YES  NO

If no, have you applied as an exchange student at DTU?  YES  NO

Please provide us with your 6 digit DTU Study ID number:

In case you have not received the Study ID number yet (exchange students) please notify (asska@dtu.dk) as soon as you receive the ID number.

DTU e-mail address for contact (if you do not have a DTU student e-mail yet provide another for contact):

# Section 2 – Study programme

**Are you currently admitted to a study programme at DTU:** yes no

**If yes;** state study programme:

**If no;** state home university

Study programme:

specialisation:

and how many semesters you completed

# Section 3 - Motivational statement

**Brief motivation to why you are applying to the course: Please provide your educational background, your motivation for studying this course, and how it will fit into your university education.**

**Confirmation**

I hereby confirm that I do not suffer from any serious diseases that require special treatment or medical attention and that I am physically and mentally capable to undertake the course of study at Arctic DTU campus Sisimiut, Greenland, with the additional stress of living and studying in a foreign environment.

I affirm that the information I have provided on this application, and any other information that I have submitted or will submit to the Technical University of Denmark in connection with the admission is complete and accurate. I also give my consent that the Technical University of Denmark can use photos and videos that I am appearing in for promotion of the semester on webpages, conferences, social media, etc.

I understand that I have to pay for my own ticket to/from Greenland (typically 8,000 DDK), pay for a dormitory room in Sisimiut provided by DTU (approx.1,000 DDK/month), pay a compulsory DTU insurance (approx. 250 DKK) prior to my arrival, apply for a Greenlandic residence permit (citizens of Nordic countries, i.e. Finland, Norway, Denmark, Sweden and Iceland exempted) or visa (non-EU) and cover all other cost involved in staying in Sisimiut and accept the invitation to an Inside group, where all further information about the semester will be given.

**Medical Statement Requirement**

In addition to the confirmation above, I understand that I must provide a doctor's statement verifying that I am physically and mentally fit to participate in outdoor activities in an extreme Arctic environment. This includes exposure to low temperatures (down to -30°C), high wind speeds, and physically demanding conditions.

The statement must include a description of any physical or medical conditions that could be of concern in such an environment, such as asthma, diabetes, or other relevant conditions. It should also specify any necessary precautions, including medication requirements, the need for rest periods, or exemptions from certain activities.

I acknowledge that this documentation is a prerequisite for participation in the semester and that failure to provide it may affect my eligibility.

Yes, I affirm the accuracy of this application information. 

Date: (DD/MM/YYYY)

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Signature

**Course description – Permafrost in Arctic Societies**

**Danish title**: Permafrost i Arktiske samfund

**Language of instruction**: English

**Point (ECTS):** 10

**Course type:** MSc – Offered as a single course

**Schedule:** Spring / From April 15 to May 29, 2026

**Location:** Arctic DTU Campus, Sisimiut, Greenland

**Scope and form:** Lectures, Group work, Fieldwork, Modelling and field mapping exercises, Project work, Community engagement

**Duration of course**: The course does not follow DTUs normal schedule

**Date of examination:** To be decided with the teachers

**Type of assessment:** Project portfolio

**Aid:** All aids

**Evaluation**: 7 step scale, internal examiner

Not applicable together with: 41881

**Mandatory Prerequisites:** AnArctic field safety course. Part of the safety training will be delivered online (on a Saturday in January), followed by a two-day introductory course held in Sisimiut upon arrival.

**Recommended prerequisites:** Enrolment in a relevant master programme and a background in engineering or geosciences.

**Participants restrictions:** Maximum 20

**Responsibles**: Thomas Ingeman-Nielsen (thin@dtu.dk) and Asmus Skar Christiansen (asska@dtu.dk)

**Course co-responsible**: Hanne Christiansen (HanneC@UNIS.no), Julie Malenfant-Lepage (julie.m.lepage@ntnu.no), Astrid Oberborbeck Andersen (aoan@ikl.aau.dk), Carina Ren (ren@ikl.aau.dk)

**Department**: 12 Department of Environmental and Resource Engineering

**Department involved:** DTU Sustain, NTNU, AAU, UNIS, Umeå, UiO

**Home page:** [**https://www.dtu.dk/arctic-semester**](https://www.dtu.dk/arctic-semester)

**Registration Sign up**: 1 October for DTU and DTU collaboration university students, 1 November for students external to DTU. Application form can be found at the Arctic Semester homepage: <https://www.dtu.dk/arctic-semester>.

**General course objectives:**

Provide students with key knowledge of permafrost and the skills needed to design and maintain sustainable Arctic societies focusing on infrastructure in permafrost regions, using an innovative and holistic approach that integrates natural sciences, social sciences and engineering.

**Learning objectives:**

* Develop a comprehensive understanding of permafrost landforms and processes in the context of changing climate.
* Understand the needs and responses of Arctic communities on permafrost in terms of infrastructure, food security, transportation and socio-economic activities.
* Apply the basic principles leading to effective site investigations in permafrost regions, and design and maintenance of infrastructure built on permafrost.
* Ability to analyze a complex situation (i.e., the interplay between permafrost components and infrastructure) and propose mitigation/adaptation solutions
* Develop skills to work within a multidisciplinary team to solve practical, solution-oriented problems (including examples from Greenland and other Arctic regions)

**Content:**

**The course is intended for students with a background in either geoscience or civil/geotechnical engineering. It is an objective of this course to develop collaboration between students of different backgrounds.**

*Topics to be covered in the course:*

* Overview of the permafrost basics (cryostratigraphy, geomorphology, and permafrost dynamics incl. the ground thermal regime)
* The cultural history and politics of permafrost
* Frozen/thawing soil mechanics (frost action, mechanical properties of frozen, marginally frozen and thawing ground, thaw consolidation)
* Key considerations for site investigations (geophysical methods, drilling and sampling, in-situ and laboratory testing)
* Heat transfer principles and permafrost modeling
* Permafrost geohazards and risks management
* Design of transportation infrastructure and foundations in/on permafrost
* Mitigation and adaptation methods (heat intake limitation, heat extraction, embankment reinforcement and ground improvement)
* Cold region hydrology and drainage strategies.

**Remarks:** Tuition is free for students from universities with a bilateral student exchange agreement with DTU