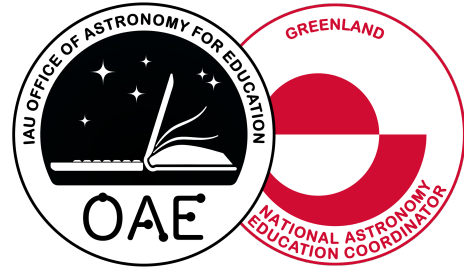


Astronomy Education in Greenland



This overview is part of the project "Astronomy Education Worldwide" of the International Astronomical Union's Office of Astronomy for Education.

More information: <https://astro4edu.org/worldwide>

Structure of education: The education system in Greenland consists of elementary school, high school (Gymnasie in Danish) with the possibility of University or technical college. Elementary school is compulsory from 1st grade to 10th (age: 6-16 years old), divided in three stages (1st - 3rd grade, 4th - 7th grade and 8th - 10th grade). It is free for all students to attend. The elementary schools in each town are state schools, although there is a possibility of private school in the capital, Nuuk. The elementary schools in villages are offered until the last stage, where it is continued in the closest main city. The main language of instruction is Greenlandic, although this depends whether there is a Greenlandic speaking teacher available. There is usually only one primary school available in the cities, except in the biggest ones: Nuuk (6 state + 1 private), Sisimiut (2 state) and Ilulissat (2 state).

The next stage is either technical college or high school. High school is 2-4 years, and is offered in 4 cities: Aasiaat, Sisimiut, Nuuk and Qaqortoq. Technical college is between 1-5 years, with traineeship between school periods. These are offered in Sisimiut, Nuuk or Denmark. Most of the educators in high school are Danish-speaking, where the course-load is mainly offered in Danish.

Education facilities: Class sizes vary from city to city, with approximately 20 pupils in one class. Running water and toilets are a requirement of each school, where the conditions of the buildings vary (some built in the 1960s and opened as late in 2011). Outside the capital, pupils are not offered transportation as the school is in walking distance. In the capital, pupils are offered free transportation with the local busses.

Governance and organisation: The curriculum is mandated by the government, where the curriculum is guided by the Department of Education. Although the requirement is nationwide, in reality the supply of natural science teachers vary between towns and villages, as well as the supply of course materials. Elementary schools are run by individual municipalities while high schools are run by the central government in Nuuk.

Teacher Training: The University of Greenland in Nuuk offers bachelor degrees of education in the department Ilinnarfissuaq, the oldest educational institution in Greenland. It is a 4-year bachelor degree, where it is possible to obtain a degree working as a teacher from their hometown. But due to the supply of teachers being low in smaller towns, unqualified substitutes are in demand, where even teachers are required to teach several subjects.

Astronomy in the curriculum: In the subject of natural science, basic concepts of astronomy are in the curriculum. For the younger classes, observations with a small telescope of the moon and

star-gazing whenever the stars are out during school hours, as well as understanding midnight Sun, polar nights, phases of the Moon.

In the middle classes, students are taught the basic concept of the Solar System and can point to bigger constellations, as well as learn the differences between planets, stars and the Milky Way.

In the oldest classes, more complex concepts are taught such as the stages of stellar, explaining northern lights and knowledge of different satellites and their purposes (surveillance, GPS, communication, etc.). Furthermore, the classes will have engaged in classical astronomers such as Kopernikus, Kepler and Galileo.

In high school, the Solar System and the historical view and understanding observations from Earths is one of the cores in the subject of physics. Furthermore, as part of the core subject of mechanics, understanding Newton's Laws and gravity is in the curriculum.

The course literature is very limited in the native language, although the teachers are capable of translating these concepts, further reading about astronomy requires language skills in Danish or English.

Astronomy education outside the classroom: There are currently no permanent planetariums nor observatories in Greenland. A portable dome can be rented from the Education Agency of Naalakkersuisut, but no experts are affiliated with the dome and renters handle the dome on their own. The Danish Technical Institute is opening the Aurora Center in Ilulissat.

The Greenland Telescope started operations in 2017. It is located in Thule Air Base, near the northernmost town. The Greenland Telescope offers offer the chance for older elementary students from Qaanaaq to visit once a year, as well as encouraging Greenlanders to join the project within a wide range of professions.

The International Astronomical Union's National Astronomy Education Coordinator (NAEC) Team for Greenland: Ivalu Barlach Christensen (Chair and Contact Person)

For specific information about astronomy education in Greenland or on this document please contact the Office of Astronomy for Education (oea@astro4edu.org).