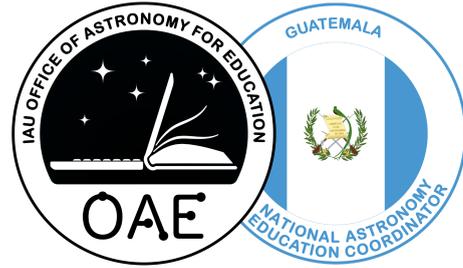


Astronomy Education in Guatemala



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: Guatemala's educational system consists of 12 years of mandatory completion. Children begin formal schooling at 4 or 5 years old, taking 3 years of the equivalent to kindergarten, – known as *Preprimaria* – before they get to elementary schooling. At around 7 years old, they get to the first grade of primary school which goes on for six years. Secondary school is compulsory for three years, referred to as Basic Education. After that time, at around 15 or 16 years old, students can decide to study for two or three more years depending on their interests, they can also choose not to do so at all. This last cycle of schooling is known as Diverse Education and it's oriented towards a career young adults can decide to pursue either in university levels or by working in their field. In some cases, adults who didn't complete their education during childhood can attend public and private institutions with Accelerated Primary Education as well as Basic Mature Education, in which 6 year programs are condensed and taught in 2 years.

There are public (state) institutions that offer all 12 years of mandatory education free of charge. Private institutions offer different levels of education as well, including the last two or three years of Diverse Education. Around 15% of students in Guatemala attend private schools during primary education, 35% of pupils attend private institutions for their last three years of compulsory education and around 70% of young adults who decide to complete their secondary education do so in private schools. Most schools teach in Spanish, including a mandatory course of Kaqchikel –one of the 22 Mayan languages spoken throughout Guatemalan territory– for all students during primary school. During the last decade there has been a lot of work from the Ministry of Education to include Mayan languages and academic resources for students that do not speak Spanish as a native tongue. There are a large number of religious schools in Guatemala, mostly Catholic, but also non-religious options offered by public and private institutions.

Education facilities: Classes in Guatemalan schools have 30 or less students in them, although there are some cases in public schools in which class sizes range up to 40 pupils. In rural areas, grades are often joined to make a full class. Public schools rarely have internet access for students, with poorly maintained buildings and small spaces for large groups of students. Almost 49% have no running water, 36% lack electricity, 8% have bad roofing and infrastructure and barely have enough bathrooms. There is often a lack of space and lack of desks. School supplies and resources in public schools are also very limited. A large number of students who attend public schools receive a state-provided meal during lunchtime and in some cases this is their only meal for the day. Private institutions do not have these issues, keeping buildings in good conditions and having access to running water and internet connection. Students who attend both public and private institutions return home every day after classes. Bus systems are common in the city for students to attend private

school, but most students who attend public education have to walk to school and it is common for it to be a long distance.

Governance and organisation: Guatemalan educational decisions are made by Consejo Nacional Educativo –CNE– (National Education Council) and it's formed by 15 institutions including the Guatemalan Ministry of Education (MINEDUC – as it is referred to). Public schools are run by MINEDUC and managed under the supervision of local personnel. The Curriculum is set by the MINEDUC for both public and private schools and it was last reformed in 2005.

Teacher Training: Primary school teachers study undergraduate degrees either during the Diverse Education cycle, for the last 3 years of secondary school, and then at a university. Secondary school teachers study undergraduate degrees in a university and choose to get a degree in their area of specialty. Teacher training is done during the end of the year break in most schools, and also on days students are off.

Astronomy in the curriculum: There are no specialised school courses in astronomy. Astronomy content can be found as part of Social and Natural Studies (a course in years 1-3 of primary school that covers science and social studies) and General Science (years 4-6 of primary school and the first year of secondary school). The contents found in these courses are a description of the Earth, Moon and Sun, the Solar system along with planets characteristics and cycles. Also descriptions of what causes eclipses, moon phases, solstices and equinoxes. Students also learn about the Milky Way and the origin of the universe according to the Big Bang and the Mayan cosmovision. There is no further study of Astronomy after this for students in Guatemala.

Astronomy education outside the classroom: There are very few options for students outside the classroom, since there are no planetaries or observatories in Guatemala. During the past year (2020-2021), Guatemala's Astronomy Association (AGA) started a series of online workshops called AGA Kids, directed to 8 to 12 year old students, charging a \$3 participation fee. There are no youth groups dedicated to Astronomy, although there is a group of college students and professors who host the NASE course for primary and secondary school teachers once a year. Secondary school students (years 3-5) can also participate in the Astronomy Olympics that have been hosted for 5 years now, by college students in the Aq'ab'al Astronomy Club.

The International Astronomical Union's National Astronomy Education Coordinator (NAEC) Team for Guatemala: Melissa Solares Hidalgo (Chair and Contact Person), Jessica Andrea Xitumul Cruz

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