## Astronomy Education in **Chile**



This overview is part of the project "Astronomy Education Worldwide" of the International Astronomical Union's Office of Astronomy for Education. More information: <u>https://astro4edu.org/worldwide</u>

**Structure of education:** Chilean education consists of three levels: Nursery education, Basic education (Elementary and Middle School) and Middle education (High school). Nursery education serves children from birth to 6 years old, and it's organized into 6 grades: First four are usually provided by cribs and kindergarten, and the left two (first and secondary transition levels) usually imparted by schools. Basic Schools serves the school population from 6 years of age and includes, as of today, 8 grades. Secondary education is directed towards students from 14 years of age and it consists of 4 grades: First two years of general education and last two of specialization (humanistic-scientific and technical-professional). In present day the grade structure of Basic and Secondary education is in transition into consisting each of 6 years. 12 years of school education is compulsory and soon the last grade of nursery will too.

**Education facilities:** Chilean schools have a media class size of about 40 pupils per classroom. There are some differences depending if the school is private or public but in all the schools have teachers with professional preparation. Almost every school has access to electricity, running water, health care, communications and internet connections, libraries and some laboratories too. Some of the schools provide breakfast and lunch to their students. Schools have double time schooling, so most of the students spend all day there.

**Governance and organisation:** In Chile, schools are managed in different ways: public, private, subsidized and delegated. The Ministry of Education is the body responsible for coordinating the creation of plans and curricula for all levels and schools. The General Education Law establishes the principles and ways in which our children and young people will be educated. Chile is divided into 15 regions from north to south of the country. Each has an office that depends on the Ministry, which performs functions of management and administration of public schools. However, the school curriculum is the same for the whole country. Its last update was finished in 2020.

**Teacher Training:** In Chile, there is no teacher training in astronomy. There are undergraduate university programs of Pedagogy in Natural Sciences or Physics, in which some topics of astronomy are addressed. Subsequently, there is also no postgraduate training in astronomy education. In general, the professors who must teach astronomy through the national curriculum are trained by applying and accessing summer courses or other similar courses, online or face-to-face and that are offered by various institutions, such as universities, astronomical centers, professionals and amateurs, amateur associations, among others. Also, in Chile there is the Astronomy Network for Teachers of Chile, which is a national network that offers training courses in the astronomy area in different places of the country during summer holidays. These courses are aimed at teachers of basic and secondary

education and their main objective is to prepare teachers using practical materials to address the astronomy topics present in the curriculum.

**Astronomy in the curriculum:** The teaching of astronomy is part of the national curriculum, being part of science and physics subjects. In elementary school, it is seen in the first three years. Boys and girls between 7 and 10 years old, see topics such as: The Sun and the seasons of the year, day and night and the Solar System. After that, we lose astronomy until high school, when students are 15 years and older. They see topics such as cosmic structures, phases of the moon, eclipses, models of the Universe, among others and technological advances associated with quantum mechanics and astronomy.

Astronomy education outside the classroom: Chile has a planetarium in the capital city (Santiago) and also science museums that are for all public. The north of Chile has privileges due to the large number of observatories found in the Antofagasta and Coquimbo region, where schools can make guided tours and link curriculum knowledge with guided tours. However, in the South of Chile it is very different, since we do not have planetariums or observatories to carry out these types of activities.

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