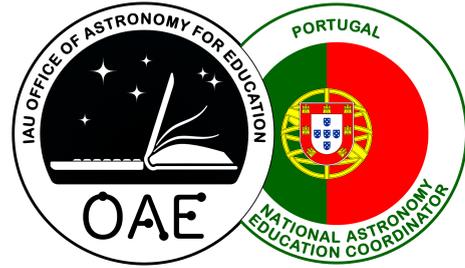


Astronomy Education in Portugal



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: Educational system in Portugal is divided into various levels. Pre-school education is available for children from 3 to 5 years of age. The mandatory school education starts from the age of 6. The next level is called Basic Education and is divided into three cycles. The first cycle (equivalent to primary school) is from 1st to 4th grade (student's age between 6 and 10), the next cycle is composed of 5th and 6th grade, where students from age 10 to 12 begin to have multiple teachers for the different subjects. The 3rd cycle is from the 7th to the 9th grade for students from ages 12 to 15. The next level before University is the secondary education from 10th to 12th grade, for students from 15 to 18 years of age). During the secondary education students have to choose the area between: Scientific – humanistic, Professional Education, Artistic Education, Technological Education. From there students can choose to go to an University or a Polytechnical Institute to acquire their final degree. During higher education students can opt to continue their path towards a master or PhD. There are also ad-hoc opportunities for students from 15th years on to start or continue their education in special models. Portuguese is the language of instruction in the vast majority of schools.

The educational system in Portugal is free for students within the compulsory education (1st to 12th grade). Pre-school and kindergarden are also available for free, according to the possibilities of the families. University students have to pay a fee but may also benefit from government support if necessary. Portugal also offers the possibility of home schooling for students that are unable to attend school for some specific reasons. There are also some private alternative schools but they are not the norm. Portugal has in particular one school (Escola da Ponte) that adopts a unique methodology, very popular in some countries like in Brazil for instance. Portugal is also home to a model called Escola Moderna, that also adopts a specific methodology for education. But those are exceptions. Around 90% of schools (from 1st to 12th grade) are public.

Education facilities: Schools have a maximum of 30 pupils per classroom depending on the grade level: Pre-school – 25 students, 1st to 4th grade – 26 students, 5th to 9th grade – 28 students, 10th to 12th grade – 30 students. Most schools in Portugal have at least one computer per classroom (used basically by the teachers) but most schools have computer labs. The COVID-19 pandemic drastically changed the number of computers per school and we need to wait for new data to provide a clearer picture. Most schools in Portugal also have internet access. School buildings are generally in good conditions and older schools are currently being rebuilt in order to address existing problems.

Governance and organisation: There is a national policy for education, regulated by the government, which might differ slightly in the case of the Islands that have some level of autonomy. The operationalization of the national policies is done by the General Education Directorate, that is composed by several units (ICT, Curriculum, Sports, etc.). The Curriculum is set by the central

government and applies to all schools. There have been however profound changes in the implementation of curriculum norms during the last few years with the introduction of the Profile of Students when leaving compulsory education, the introduction of essential learning, the production of a roadmap of citizenship, the flexibilization of the curricula program and other important changes and initiatives. The headteachers of individual schools report to the Ministry of Education.

Teacher Training: Educators from Pre-school to 6th grade acquire their degree in Colleges devoted to Education. From 7th grade on educators come from degrees in specific universities with a pedagogical component in their training. There are 90 public in service teacher training institutes and a series of private ones. For progression in their careers teachers need to acquire credits. The training centres have to accredit their courses within a specific institution in Portugal that will issue a certification for the course and enable participants to acquire credits from those courses.

Astronomy in the curriculum: Astronomy as a specific subject doesn't exist in the curriculum but can be found in several grade levels and subjects across the school years. It can be found in the 3rd or 4th grade as a brief introduction, in the 7th grade as a part of the curricula of the Physics/Chemistry discipline where we can find a more in depth list of subjects. Can be found in several chapters of Biology lessons from 8th to 10th grade. It can also be found in Natural Science curricula, again as a brief introduction and in particular referring to the Sun and Solar System. It used to be integrated in the 10th year where a very nice introduction to the life cycle of stars could be found. Unfortunately, the last curriculum reform took this content out.

Astronomy education outside the classroom: There are several science centres, museums, observatories and planetariums in the country presenting astronomy related content to the public. There are also a couple of Solar System Walks where the participant can have a good idea of the scales in the Solar System. There is also a large program organized every year by the National Agency for Public Outreach (Ciência Viva), "Astronomia no Verão" (astronomy in summer) that gathers professional and amateur astronomers in events taking place all around the country. The amateur astronomers community also regularly organizes events devoted to the public.

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