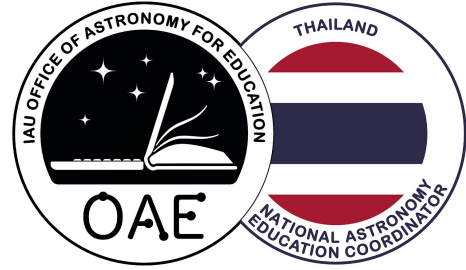


Astronomy Education in Thailand



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: Formal education begins in kindergarten at the age of 3. After kindergarten is compulsory 6 years of elementary school, followed by 3 years of middle school. After middle school most children attend 3 more years of highschool before going to higher education. An average school day typically lasts from 8am to 4pm, spanning 6-7 different subjects. Upon entering highschool, students choose between the "Arts" and "Science" program. However, school subjects for everyone in the same program are fixed and all classmates sit in the same classroom sharing the exact same schedule. Public schools are subsidized by the government and expenses are significantly cheaper compared to private schools. Most schools are taught in Thai with very few exception. Buddhism is a subject that is part of the compulsory curriculum, but plays no role outside the subject. University entrance relies heavily upon a standardized exam. It is quite popular for students to attend "cram school" after school hours to get better results on standardized exams, as it puts them at great advantage in University entrance and is performing well academically is valued highly within the culture.

Education facilities: Typical classrooms are rather large and most commonly range between 40-60 students. Private schools and provincial schools located in urban centers often have significantly better facilities. Rural schools often struggle to fill enough positions and facilities are much more limited. Due to the disparity between institutions, many parents prefer to send their children to a school further away but are better equipped. As a result, getting into popular schools can be rather competitive.

Governance and organisation: Public schools are operated by the Ministry of Education. The Ministry of Education is also responsible for drafting the curriculum. Particularly, the Institute for the Promotion of Teaching Science and Technology (IPST) is a branch of the ministry that is responsible for the science subjects in the curriculum. There is no fixed timeline to how frequent the curriculum must be updated, but on average it is updated about once every decade. The current astronomy curriculum was adapted from the previous one in 2017.

Teacher Training: Most school teachers graduated with a degree in education, but some astronomy teachers come from science degrees after obtaining the teacher certificate. Since astronomy is part of the mandatory subjects, every school must have an astronomy teacher. However, due to astronomy being a relatively new subject, there are very few teachers who received a proper education in astronomy. The majority of astronomy teachers come from physics backgrounds, but due to physics teacher shortage, other fields have been asked to cover the subject as well. Public school teachers have to fulfill teacher training workshop hours requirements in order to be considered for promotion. The National Astronomical Research Institute of Thailand (NARIT) has a dedicated public outreach

department that organizes multiple levels of teacher training workshops annually, with over 10,000 teachers trained collectively.

Astronomy in the curriculum: Astronomy is an integrated part of the required curriculum. From elementary school to middle school, astronomy topics can be found in general science. A dedicated subject of “Earth, Astronomy, and Space” is a mandatory subject for all students in highschool which covers geology, atmospheric science, and astronomy. In this subject, most topics in astronomy is covered: Big bang and the evolution of the universe, galaxies, stellar life cycle, energy source of stars, luminosity, color temperature, stefan boltzmann law and wein’s law, stellar parallax, the origin of the solar system, models of the solar system, the Sun and its related astronomical phenomena, space technologies, telescopes, the celestial sphere, the path of the Sun, solar time and sidereal time, elongation angle, naked eye observation of the night sky, etc. For higher education, there is currently no astronomy department in any Universities, and only a few Universities offer a course in astronomy under the Department of Physics. Currently, there is only one University that offers a graduate degree in Astronomy.

Astronomy education outside the classroom: Extracurricular activities are limited in Thailand due to the culture that prioritizes academics. Astronomy clubs activities are further complicated by tropical weather and strict requirements in gathering at school after-hours. Some active astronomy clubs exist, but depend heavily on the teacher’s initiative. A big part of the National Astronomical Research Institute of Thailand (NARIT) annual teacher training workshop is to encourage teachers to promote astronomy clubs. NARIT also has a program where hundreds of telescopes were loaned out to teachers after they’ve been trained in operating them. With such a network in place, astronomical events can be easily organized and held simultaneously across the country. There are also many planetariums and regional observatories available and many schools use them for field trips or science camp year round. Due to reasons unclear, students participants in astronomy activities are predominantly girls with over two-thirds being girls.

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