

Astronomy Education in Indonesia



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: Compulsory education: officially 12 years, but in practice many areas can only go for 9 years. A good proportion of senior high school graduates would attempt to enter university or academia level schools, but science is still a rare subject of choice.

Public schools, private schools, public religious schools: have to abide by at least a certain portion of "national" policy on education. Public schools follow the whole.

Language: Indonesian language (national language) in class, but in some regions local languages are used for more casual conversation. A small number of international schools, only in the biggest cities, have English as the language of instruction or bilingual.

Method of delivery: in class meeting with books invariably used. Some provide after class tutorials for exam preparation.

Education facilities: Basic: in urban areas where road and electricity are not in place, schools are of basic building and furniture, minimal books, no computer. But often school buildings are much better built than private houses. Students walk to school. For high schools, which are not always available in remote regions, students leave their families to stay with relatives who live closer to school.

Intermediate (average): urban or suburban areas with basic needs covered; computers availability varies; books available. Students walk to school or take communal/public transportation.

Advance: mostly in big cities, private owned or run by foundation and/or religious orders) with modern facilities, including for extracurricular programs. Students are driven to school or take communal/public transportation.

Governance and organisation: "national" curriculum: structure of school curriculum generally adopted by schools, particularly public schools.

Local material: educational material that is derived from the local need, wisdom, natural resource, tradition, language. Just a few percent (a few hours per week).

The governance of school operation (e.g. quality control, managing finance and human resources such as teachers, etc) is decentralised but supervised by the Ministry of Education and Culture: Provincial level: senior high school; Regency, village: junior high school, primary school, preschool. Private schools have various agreements with the Ministry.

Islamic schools: governed by the Ministry of Religious Affairs.

Teacher Training: Public Education University: A system of nationwide universities primarily focused on education. Many teachers are trained in this kind of university.

Religious Education University: a number of religious orders have university level (academy) for education (teacher preparation).

Regular universities with a teacher preparation program: A number of established public/private universities have a program for advanced teacher training (master level), mostly in science.

Training: in addition to pre-service training, in-service training is available, but not always accessible or feasible.

In very remote areas: lack of teachers can be severe: whoever has enough education would volunteer to teach; and/or one teacher covers many subjects

Astronomy in the curriculum: Primary school: part of science in general: second year: Earth; fourth year: Earth-Moon-Sun; sixth year: Solar System.

Junior High School: a small part in science course: first year: Earth-Moon-Sun relation (motion and effect on Earth); third year: Solar System and Sun as a star.

Senior High School: depends on school: physics or geography: first year: Earth and Solar System

University: some astronomy is sometimes introduced in first year science class, although only compulsory for science major students; very few universities have astronomy courses as elective, usually offered in physics or related programs; only one university/institute so far offers a complete program (bachelor, master, doctoral) in astronomy.

More complex and contemporary astronomy are usually encountered when students and general people visit astronomical facilities and/or join public outreach programs (listed below). Newspapers and the internet have been a source of information, but yield various degrees of comprehension.

Astronomy education outside the classroom: Planetaria: a big one in Jakarta, and a few small ones in other big cities, and even fewer mobile planetaria. All needing improvement in program and operation(particularly staffing).

Astronomical observatories: public visits: programs designed for school visits, teacher short training, public nights, etc; online public outreach programs.

Science centres: usually have astronomy corners.

Science competitions, including astronomy: often interest students, teachers, schools: training is usually organised for short term and long term.

There are a growing number of amateur astronomy groups: they are very active with their observation programs as well as public education. They are really indispensable in reaching the wider community. Observatory and university astronomers often collaborate with these groups.

A growing interest in teacher empowerment programs include astronomy in STEAM education: run by a collaboration of astronomers and other STEAM experts.

Online astronomy educator/communicators: groups of astronomers who prepare astronomy material for popular consumption and engage with the public mostly on the internet, but often meet in real space.

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