What does the programme look like?

Applied Earth Sciences is the only degree programme in the Netherlands that combines geology, engineering and technology. During the programme you will obtain knowledge about the processes that shape the subsurface of our planet. You will also learn to apply that knowledge to tackle challenges related to resource security, responsible extraction of resources, energy transition and climate change adaptation, among many others.

Additionally, you will be introduced to the use of satellites to monitor phenomena such as subsidence caused by the extraction of gas, water or salt or, changes to the Earth’s surface due to earthquakes. Because of the focus on the subsurface the programme contains courses in geology and geophysics, teaching you about the processes that shape the Earth. In order to provide you with the required engineering and technological skills you will take courses in physics, chemistry and mathematics. During the bachelor programme you will not spend all your time attending lectures. You will take laboratory classes, experience fieldwork and participate in tutorials. As an Applied Earth Sciences student, you will develop critical thinking skills and learn to be an entrepreneurial engineer with the ability to anticipate the future.
Bachelor / Applied Earth Sciences

What will you learn?

During the first year you will attain a good foundation in mathematics, physics and chemistry. You will learn about geology and the context of Applied Earth Sciences. This means that you will dive into the challenges related to subsurface engineering and learn how to monitor, manage and mitigate the impact on society and the environment using technology.

In the second year you will continue to develop your technical and geological knowledge and increasingly learn to apply this knowledge. Towards the end of the academic year, you carry out fieldwork in the South of France.

The first half of your third year will consist of a freely selected minor. The minor enables you to broaden your perspective by taking courses outside your speciality field, or to further specialise in a field of your choice. The second half of the third academic year is spent on finalising your BSc degree programme. You will do this by taking several courses where knowledge and expertise obtained earlier in the programme are integrated in order to solve real problems.

Additionally, you will be working on your final Bachelor assignment. In which you will perform research in a topic of your interest.

During your study programme, you will have numerous opportunities to get into contact with companies and organisations. These opportunities will allow you to build an international network of professionals.

What is the profile of an AES student?

You are:
- able to work independently
- full of initiative
- interested in the Earth and responsible/sustainable use of resources
- good at physics and mathematics

What skills will you obtain?

You learn to
- think critically and independently to solve complex problems
- devise, calculate and research the technical potential of a project
- assess uncertainties and exercise judgement in complex situations with limited information
- work in a multidisciplinary and multicultural team
- develop specialist knowledge pertaining to subsurface engineering

Follow-on Master’s programmes

- MSc Applied Earth Sciences, MSc Applied Geophysics
- Other possibilities within the faculty: MSc Environmental Engineering or MSc Civil Engineering (After completing some specific courses/electives within the AES bachelor programme)
- Continue at a master at another faculty or university (bridging programme may be required)

Job prospects

There is a broad range of career options; from resources to consultancies and governmental organisations. You can go on to work at many different companies, depending on the type and place of work you would like.

35% international students
20+ nationalities among students

35% female

65% male

4.2 Study atmosphere (NSE 2021)

92% finds an appropriate job within 6 months

100% of AES students go abroad as part of their programme