



Eidgenössische Technische Hochschule Zürich
Swiss Federal Institute of Technology Zurich

Department of Environmental Systems Science
Degree programme in environmental sciences

ETH Zurich
Study administration
Universitätsstrasse 16
8092 Zürich
Switzerland

Phone +41 44 633 60 82
env_science@ethz.ch

www.usys.ethz.ch

Qualification profile Bachelor in Environmental Sciences

Introduction

The Bachelor's degree programme in Environmental Sciences imparts knowledge and understanding on how the natural environment functions, and on the interactions between humans and animate and inanimate environments. The Bachelor's degree programme prepares students to undertake the Master's degree programme in Environmental Sciences, completion of which constitutes a professional qualification.

Domain-specific knowledge and understanding

Graduates with a Bachelor's degree in Environmental Sciences possess

- the basic knowledge of mathematics, chemistry, physics, biology, statistics and computer science required to describe and analyse environmental systems and their processes;
- networked knowledge of the environmental systems earth, the atmosphere, the hydrosphere, the pedosphere and the biosphere;
- a grounding in the economic, political and legal sciences;
- practical knowledge of the basic methods of various foundation and environmental systems subjects;
- example-based knowledge of theoretical concepts and quantitative methods in a selected area of environmental sciences.

Skills

a) Analytical skills

Graduates with a Bachelor's degree in Environmental Sciences are able to

- record data systematically and process and analyse it using quantitative methods;
- describe problems from environmental practice and analyse them systematically;
- integrate aspects from the social sciences and humanities into their analyses.

b) Development skills

Graduates with a Bachelor's degree in Environmental Sciences are able to

- create system models on the basis of predetermined or self-compiled data and apply them in analyses and prognoses;
- develop and evaluate possible solutions to aspects of environmental problems;
- isolate a simple scientific problem and develop, plan and implement a possible procedure for its solution.

Personal and social competences

Graduates with a Bachelor's degree in Environmental Sciences are able to

- learn independently, with an open and critical approach;
- deploy disciplinary knowledge using interdisciplinary thinking and working methods;
- communicate orally and in writing with an eye to the target group;
- reflect on their own abilities and deploy them in team situations.

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