

The teaching philosophy of Faculty V

The approach to teaching taken at Faculty V reflects the subject-related characteristics of the natural sciences, mathematics and engineering, paying particular attention to the large proportion of our students in teacher training programs. A large variety of different formats are used, including classic lectures with complementary exercises, seminars, practical courses and individual research projects. Both in the natural sciences and in engineering, teaching is characterized by a high proportion of practical training units, with fields such as biology and environmental sciences also containing a substantial field component. Naturally, such practical courses have to be taught in presence, but this is also our goal for classes dealing with mathematical and scientific theory. Online-formats are increasingly used throughout our programme, but are seen as complementary because we stress the importance of the direct interaction of teachers and students.

Good teaching challenges the students. Starting with the acquisition of basic knowledge in a particular field in larger classes, students are soon expected to work more independently and to tackle specific problems and to critically reflect using the scientific method. The teaching staff defines the goals, contents and methods of the curriculum and guarantees a manageable workload. However, the success in the course of studies remains the individual responsibility of each student. The expected personal development should go beyond the accumulation of specialized knowledge – the university remains an institution of personal formation. Thus, the critical reflexion of one's role as a scientist and a willingness to accept responsibility in society at large represent overarching goals. This is particularly relevant for teacher candidates, who will become important disseminators in schools and where a combination of specialized knowledge, didactic competence and enthusiasm for a given subject is needed.

Bachelor programs put more emphasis on basic knowledge and skills in a particular field, but independent research already forms part of the curriculum before the final Bachelor thesis. Master programs, in turn, are mostly research-oriented from the start.

Good teaching at both levels promotes a student's independence by providing the opportunity for project-based learning, in which theoretical knowledge and practical skills are used to tackle concrete study problems. Acquiring knowledge is not an end in itself, but is seen as an indispensable tool to solve problems both at the university during the course of studies as well as later in professional life.

With the skills we bring to them, our students are expected to hold responsible positions as professionals. There, they will have to solve unforeseeable problems at their working places, be this at schools, universities, or a multitude of other private or public institutions. The education they receive from us at Faculty V prepares them for these challenges.