Teaching Statement

Dr. Peter H. Fröhlich

Background  Ever since I first assisted in introductory programming courses at the Munich University of Applied Sciences, Germany, I knew that I wanted to make a career of teaching. I thoroughly enjoy working with students, good ones as well as not-so-good ones. I try to guide them to find their own solutions, challenge them to exceed what they thought was their best, and motivate them to be curious about almost everything. My experience as a lecturer at The Johns Hopkins University, the University of California, Riverside, and the University of California, Irvine have given me confidence that teaching is indeed a career that I find both exciting and fulfilling.

Approach  I believe in teaching computer science as a balanced blend of theoretical foundations and practical applications, exposing students to the interplay of science, art, and engineering in our discipline. I try to create an interactive learning environment that takes the interests of students into account, engages them actively through critical thinking, and avoids reducing them to “mere recipients” of knowledge. I emphasize team work in most courses, often using a staged approach that leads from individual assignments through assignments in random pairs to a final project done in teams of three. I like to give students a sensible amount of responsibility for their education, and I encourage them to regulate their own affairs in team projects.

Experience  I have taught the following courses, many of which I also (re)designed: Algorithms and Data Structures, Compilers and Interpreters, Foundations of Computer Science, Introduction to Programming, Intermediate Programming, Operating Systems, Programming Languages, Senior Design Project, Software Construction, Software Engineering, and Unix Systems Programming. I have advised students regarding internships, job opportunities, and course selection; I have also advised independent studies and MSc projects.

Plans  In addition to the courses listed above, I am currently interested in teaching Computer Architecture and Computer Networks. I would also be able to teach Database Systems, Web Development, and User Interfaces with relatively little preparation. There are several courses that I would like to help create, for example an early course in discrete mathematics, a dedicated course on object-oriented design and programming, a course on the implications of information technology for society and policy, and a course on the history of computing over the centuries. In terms of teaching techniques, I would like to master the integration of regular exercises into lectures, something that has eluded me so far. Finally, I hope to finish my text on Compilers and Interpreters.