

Quality concept Master Marmic

Program objectives

The master's studies of marine microbiology are an integral part of the International Max Planck Research School of Marine Microbiology (IMPRS MarMic). This school offers an MSc / PhD graduate program for highly qualified and motivated German and international students. MarMic is a joint program of the Max Planck Institute for Marine Microbiology (MPI), the University of Bremen (UniHB), the Alfred Wegener Institute for Polar and Marine Research (AWI), and the Jacobs University Bremen (JUB). Teaching and examination language is English.

Marine microorganisms are essential to the maintenance of our biosphere, yet we have only fragmentary understanding of the diversity and function of the microbial life in our oceans. The study of marine microbiology involves research on fundamental issues such as the evolution of life, the functioning of marine food webs, global climate change, element cycling, and the biodiversity of the ocean. In detail, MarMic teaches students to take an integrative approach to the understanding of marine prokaryotic and eukaryotic microbiology, offering training in physical and chemical oceanography, biogeochemistry, physiology, ecology, evolution, molecular biology, and bioinformatics, and is thus truly interdisciplinary, bridging life, environmental, and geological sciences.

MarMic students are trained to think globally and to choose from both holistic and reductionistic research approaches. The breadth of theoretical and practical experiences at MarMic enables students to address questions ranging from biogeochemistry to bioenergetics, from genomic analysis to functional capability, or from single-cell interactions to behavior in mixed communities and symbioses. These fundamental as well as special abilities make MarMic students attractive recruits for international research teams, institutes, universities, and industry. But in the first place, it is an excellent recruitment pool of further PhD candidates in biological science. In addition, the excellent scientific and technical training, courses in soft skills are offered to help students acquire competences that are just as important for their future careers in science and industry. This includes modules like communication, self- and time-management, moderation and presentation, interpersonal qualities, and career opportunities.

Evaluation concept

Each semester, student evaluations of courses are regularly carried out as a means of controlling the quality of teaching. For this purpose, the study program has developed its own electronic anonymized procedure, which is implemented by the study program coordinator. Individual evaluations are carried out for all the courses that make up a teaching module. The results of these evaluations are analyzed by the coordinators and made available to members of the teaching staff on the MarMic intranet.

A summary of the evaluation results is presented and discussed at the annual MarMic faculty meeting. Students are integrated in the ongoing process of optimization during discussion in the examination board. During the annual retreat, the students award accolades for the

three best lectures and practicals. On majority vote, the meeting decides whether to make changes and adopt suggestions for improvement in the following semester.

Criticism of individual courses or members of teaching faculty is discussed between the leaders of the study program and the persons concerned. Such meetings are strictly confidential. The measures to be adopted are discussed at an additional joint meeting of MarMic faculty and students of the master's program. The parties attempt to reach consensus on what further measure should be taken.

The supervision and mentoring of students on the part of coordinators and tutors constitutes a further element of quality assurance, ensuring up-to-date knowledge of all study-relevant processes in the course of studies. It also enables intervention in ongoing processes and the possibility to take timely action to avoid undesirable developments. This procedure has so far proven to be efficient and is highly appreciated by the students.

All in all, the objectives of quality management in FB2 are suitably met in so far as

- the feasibility of the study program is continually monitored and ensured by achieving ongoing student feedback (just 2 dropouts since the master's program was started in 2003)
- mobility receives a strong boost (e.g. participation in external internships abroad, especially practice modules 7, 9, and 12)
- successful internationality program (about 75% of applications for study places and 50% of the students on the program come from abroad) and
- research-based learning (conduction independent projects in lab rotations) has become commonplace.