

John L. Godlee - Teaching Statement

Teaching is ultimately the means by which we train the next generation to do good science, to lead ethical and impactful professional lives. This feeds my motivation to teach, and in turn teaching feeds my motivation for research and work in the university sector. **I have found teaching to be an incredibly rewarding activity, and it continuously leads to inspiration in my research.**

My previous experience in teaching has covered a range of diverse topics including research design, statistical modelling, field research methods, and field taxonomy. **In 2022 I developed a course on the numeric modelling and simulation of ecosystem processes**, with colleagues Dr. Stace Fairhurst and Dr. Luke Smallman at the University of Edinburgh. This course focussed on teaching broad concepts and approaches to modelling complex ecological processes, rather than delivering factual content on any particular ecological system. I contributed to overall course development, and designed and delivered two combined lecture-practical sessions on the subject of time series analysis and modelling demographic processes in forest ecosystems. The course was advertised to final year undergraduates, and was largely targeted towards students hoping to excel in academic ecological science. Feedback on the course was positive, and was **praised by students for its interactive approach to problem-solving in the practical sessions**. The course was a rich and rewarding experience for me, as it helped to develop my approach to teaching challenging ecological concepts in an engaging way in a classroom.

As a demonstrator during my PhD I led groups of students on field courses to design and execute their own field projects, mentoring individuals through the scientific process from conception and hypothesis generation, to data analysis and report writing. I found this process hugely rewarding. In 2019 I was nominated for a University Teaching Award for my role as a group mentor in the Principles of Ecology undergraduate course. **I have a broad, detailed knowledge of the British flora**, having led many groups of students through the Scottish countryside as they build their own field identification skills. I also have experience of field identification from many weekends of organising conservation volunteer groups in Midlothian during their work to remove invasive species and plant trees. My botanical skills are further strengthened by extensive botanical work in the dry tropics, and a broad understanding of plant taxonomy. These skills place me well to contribute to all parts of field-based teaching in the Ecological and Environmental Sciences degree programme at the University of Edinburgh.

I am a founding member and was previously a core developer of the University of Edinburgh Coding Club peer-learning initiative. **I have many years of experience developing and delivering teaching materials on quantitative skills**, including basic numeracy, statistical modelling, data management, and data-led research design. I am fully aware of the challenges in teaching statistics and programming to students of ecology, who commonly express a ‘fear’ of mathematics and computer programming. In Coding Club we developed a model of student-led project-based learning, which overcomes some of the challenges of traditional class-based learning of statistical modelling and programming. ‘Deep’ learning of statistical concepts is difficult to achieve in a class setting, and I hope that as part of a lecturing role I can pioneer effective and non-traditional methods of teaching in this field. **If I was successful in securing this lectureship position I would be excited and ready to resume a more active role in Coding Club, for example as the principle academic lead**, to focus on further development of

the platform and its integration with the Ecological and Environmental Sciences degree programme.

In 2019 I completed a course to develop my understanding of pedagogical theory, during which I was **inducted as a Fellow of the Higher Education Academy**. I transformed my approach to teaching as a result of this course, and have developed insights I believe will continue to serve me well as I continue in a lectureship role. I believe strongly in “priming” students, i.e. ensuring that students are aware of what they can hope to get out of a particular knowledge exchange and my expectations for the exchange. I make sure this occurs in all forms of teaching, whether in the field in the rain or in a computer lab context.

I am committed to facilitating non-classroom learning opportunities. I believe it is extremely important to facilitate the regular interaction and co-location of teachers and students in faculty buildings, to build relationships and spark unconventional learning opportunities. During my time with Coding Club these free-form discussions and cross-hierarchy interactions provided an enriching experience for both learner and teacher. I hope to develop more of this collegiate community experience in my role as a lecturer.

Beyond class-based teaching I have experience mentoring and supervising individual students undertaking longer projects. **I currently supervise two PhD students**, one from the University of Edinburgh, and one from the Namibia University of Science and Technology. I have also supervised undergraduate dissertation students, summer work experience students, and field assistants, both in the UK and overseas. As I develop my own research group I appreciate the role of the manager of such groups. I appreciate the value in facilitating group discussion, encouraging independent learning and peer-to-peer knowledge exchange to build a culture of learning. I also have come to understand the value of teaching soft skills in research, and discussing the challenges of research. **I believe strongly in an apprenticeship model of PhD supervision, building self-reliance and involving the student in opportunities within the research group.**

As a lecturer in the School of GeoSciences I feel I would be well placed to continue developing courses for undergraduate and masters students, particularly related to research design and quantitative skills, but also field ecology, given my extensive previous experience and commitment to thoughtful curation of the learning experience. I am also excited to continue building my role as mentor and supervisor for students at all levels of their university career. Teaching is a key part of learning, both for students and researchers at later career stages.