

Natural Computing (NAT)

Response to student feedback in 2019/20 course survey

I have taken note of the feedback from students in this course survey, and have the following comments in response.

- The course will be continuously improved in order to incorporate new developments in research and application of natural computing and create a more accessible, engaging, informative as well as challenging experience.

Teaching of Natural Computing is problematic because the very active field does not yet have a common theoretical foundation nor a systematically and hierarchically structured tree of topics, and a large part of the available literature consists of rather uncritical studies of algorithms without practical use cases. So, it is a major goal of the course to provide the students with a critical view on the claims that accompany the optimisation algorithms within the field of natural computing, an understanding of reasonable use cases and a vista of the opportunities that the field provides in the future in applications.

Among the responses there was no disagreement that the course content was very interesting, although the presentation in the lectures requires improvement. In particular, the incorporation of practical elements should have priority, although all of the relevant algorithms are extremely simple and require little technical skills for implementation and application. This does not mean that their working is trivial, such that discussion of the algorithms and the means for an understanding of their function require equal attention.

This combination can perhaps be best achieved in a longer group project, which in part can be done in combination with the tutorials under supervision of the tutors, and in a part in form of coursework. Based on the feedback it seems reasonable to attempt such an active-learning approach next year.

Furthermore, as it is not always possible that the students have familiarised themselves with the course content before the class room meeting, the inverted class room style which we have adopted in a hybrid form might not be preferable for many students. In a traditional presentation style, the content can be delivered in a much more coherent way, such that some of the criticism on the style of the lectures will be answered in this way. There will still be enough time to deal with any questions or topics for debate in part of the lectures and in the tutorials.

The tutorials were mostly good, but not all tutors were equally familiar with the content, this will naturally improve, if there are more tutors available who have experience in tutoring on the course and/or who have themselves taken the course in the past.

There were some technical problems with the lecture recordings and a few (minor) problems with the workings of LEARN. I am sure that the technical staff will work very hard to remove these problems before the start of the course next year.

Michael Herrman; February 2020