Proposed level changes to
Introductory Applied Machine Learning and
Introduction to Computational Neuroscience

Alex Simpson
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The proposal is to move two 3rd-year courses, Introductory Applied Machine Learning (IAML) and Introduction to Computational Neuroscience (ICN), from level 9 to level 10. This is in keeping with the large-scale level change, from level 9 to 10, of many Informatics year-3 courses, which has been undertaken over the past 2 years. In the case of ICN, although the course is in DRPS it has never been taught before. There is a request from IANC to make running this course a school priority next year, now that teaching resources have been freed by the discontinuation of the MSc by Research in Neuroinformatics and Computational Neuroscience.

1 IAML

Justification for move to Level 10:

This course teaches a broad range of machine learning methods at a more practical level than our level 11 Machine Learning and Pattern Recognition course. The mathematical models required to understand and apply these methods are more elaborate than those required by a normal level 9 course. The learning outcomes of the course include the ability to choose appropriate methods for a given domain and critically review the performance of a given algorithm for a broad range of advanced techniques.

Proposed changes to course descriptor (other than level):

In Other Requirements box change “Programming requirements: None” to “Programming requirements: students must be able to program - we may use an environment like iPython or Matlab that requires programming.”

2 INC

Justification for move to Level 10:

The course offers a broad description of computational neuroscience methods and applications. It uses mathematical methods that are beyond those usually taught at level 9. Moreover, due
to the recency of the field, it will describe ongoing research, at the forefront of the field. Such material was only taught at MSC level previously. The learning outcome of this course will include the ability to critically assess the validity and usefulness of computational modelling in neuroscience.

Proposed changes to course descriptor (other than level):

None.