

Sol Course Proposal Review Form

Version: Nov 2021

Reviewer Name: Michael Herrmann

Name of Proposed Course: Computational Neuroscience

Date of review: 24/11/21

Instructions to reviewers: please read through the course proposal and answer the reviewer questions below. Return your completed review form to iss-bos@inf.ed.ac.uk by the review deadline. If you are new to the School or to reviewing course proposals, it may help to read some of the guidance provided to course proposers, mostly included as prompts in the course proposal form itself (including links to external reference materials).

1 Course overview and case for support (Sec 1 of proposal)

1.1 Course name and acronym

Given the course description, are the name and acronym appropriate, or would you suggest any changes?

This is an excellent course proposal that I clearly recommend accepting. The course name is perfect (and better than NC or NIP). The acronym seems to yield naturally from the course name, but seems to me a bit too similar to CCN and CCS.

1.2 Summary and Description

Do the Summary and Description make the course sound attractive, including a student-friendly overview of the learning aims, content, and style of the course, and (if need be) who the course is aimed at? Are there any issues with content or wording that you feel should be addressed?

It might be useful if the summary gives an idea of a "neural system" as a model of a part or aspect of the brain (rather than an artificial neural network with a less general purpose, unless this is what is intended).

Questions like "How do neurons form representations of the external world? How are memories stored in the brain?" will clearly be attractive to students, although they may expect too much from such a formulation.

The penultimate paragraph is very useful and could perhaps be extended to point out more clearly to the level(s) of description that are covered in the course.

The last paragraph of the summary description is very useful for PTs, but may not be needed by students.

1.3 Target audience and contribution to the School's curriculum

Please comment on the case made for this course and its contribution. For example,

- Is there good evidence that it would attract students, or is otherwise necessary (e.g. strategically)?
- Do you have any concerns about how it would fit in with other courses (or even concerns about other courses that come to light here)?

- Is the description of the target audience consistent with the requested SCQF level? Are there any cohorts of students (degree programmes or years) that may not have been considered, including students from outside the School?

Note that even if a course is academically sound, BoS can still reject it if the case for support is not convincing (ie if developing and delivering the course is unlikely to be a good use of resource).

The expectations outlined in the proposal are very reasonable.

1.4 Learning Outcomes

Please comment on the Learning Outcomes. Questions to consider include:

- Are the verbs specific enough that it is clear what type of assessment could be used for each Learning Outcome, and what level of cognitive skill/understanding is needed (e.g., Bloom's taxonomy low levels such as recalling or defining, medium levels such as applying or explaining, high levels such as evaluating or designing)?
- Are the Learning Outcomes appropriate to the level of the course, and at an appropriate level of generality?
- Are there any LO's that you feel are missing, or other suggested changes?

My main question would be whether the student will be able to (as indirectly implied by outcome 4) "understand brain function"?

Outcome 2: The critical evaluation is very important, but should -- as part of the course -- also extend to the neuroscience knowledge and methods used to obtain and apply this knowledge. (I see some aspects are mention under "Decolonisation", so it seems to be fine.)

Outcome 5: The phrases "some of the" and "programming language of your choice" should be reconsidered in the formulation of this outcome.

Outcome 5: Can you mention any further skills that result from the ability to implement the models, or be more specific about the "methods" which are not mentioned much in the proposal?

1.5 Other comments

Do you have any other comments about anything in Section 1 of the proposal?

I'm wondering what recent developments in the field or any expected developments speak for the course or have influenced the course design?

As the course is a fusion from NC and NIP, it may be worthwhile considering running it for 20 credits (or giving an idea why 10 credits is exactly right for this merger).

2 Course delivery, assessment, resourcing (Sec 2 of proposal)

2.1 Use of time

After reviewing the proposed content, use of timetabled activities, and plans for assessment, please comment on the use of time, in light of the guidance to use no more than 6-7h/week for a 10pt course, or 13-14h/week for a 20pt course, including all course activities. For example,

- Does the course appear to be keeping within those guidelines, is it over-ambitious, or is that difficult to determine based on the proposal so far (and if so, why)?
- Is the balance of activities reasonable (e.g., will students have enough self-study time outside of timetabled activities and assessment)?
- Do plans for support activities (labs, tutorials, etc) look appropriate or could they be improved?
- Are there any inconsistencies between what is stated in the text, and the “breakdown of activities” table? (This table is notoriously confusing; if you’re not sure just say so.)

Computer labs can be a limiting factor if distancing rules are in place. Collaborative programming environments might be considered as an option.

2.2 Assessment and feedback

Aside from the amount of time spent on assessment (discussed above), are there any other issues with the plans for assessment and feedback? For example,

- Is the number of items of assessment reasonable (normally, no more than 1 summative coursework for a 10pt course, or 2-3 for a 20pt course)?
- Is it clear which learning outcomes are assessed by each piece of assessment, and that all LOs are covered?
- Are there any concerns about whether the assessment will scale effectively if the class is larger than expected, or whether the assessment design will make it difficult to align marks with the Common Marking Scheme (e.g., due to automarking)?
- Do the plans require tight turnaround times which may not be feasible?

Seems fine, although I'm not sure how the combination of supervised practicals and assignment is going to work. It might be useful considering (especially as it is only a 25% assignment) running it as a group project.

2.3 Decolonisation, inclusion, and ethics

Are you satisfied with the plans for making the course inclusive and decolonising the content and delivery (including designing for accessibility; gender, racial, cultural, and other issues)? Do you have any suggestions for improvement in these areas?

I'm not sure whether the course may tend to overemphasize "normal" brain function as a standard, and whether there is a chance to cover the range of modelling approaches of the wide varieties of brain function in humans.

If the course proposal does not already mention social or ethical issues related to the course topic, should these be addressed in the course somehow? This is especially relevant for 20pt courses. If so, please provide suggestions if possible. *(Note that if others agree, the proposer may be asked to modify the course description, Learning Outcomes, and/or Graduate Attributes, as appropriate.)*

The course proposal mentions ethical issues under "Decolonization". It may be useful to mention that brain theory had historically an important share in the realization of equality among humans, but there are many aspects where a critical view is required (see above).

2.4 Resource requirements and other comments

For now we will mainly have SG and/or BF evaluate the resourcing section, but if you have any comments about that, or anything else to say about Sec 2, please say so here.

No comments.

3 Sample course materials and publicity (Sec 3 of proposal)

Do you have any comments about this section? *(You may wish to consider whether the materials provided teach or assess the types of learning outcomes listed in Section 1.)*

CW could be made a bit more clear, see above; otherwise fine.

4 Requisites, timetabling, and other details (Sec 4-5 of proposal)

4.1 Delivery period and requisites

Do the delivery period and co-/pre-requisites present difficulties for any particular cohort of students? If so, who? *(Consider all years/degrees for whom the course is intended, both UG and PGT. Note that most PGT students will not have taken any of our UG courses, so “other requirements” or recommended prerequisites should often be used instead of required prerequisites).*

I don't see any problems here.

4.2 Other requirements

For courses open to PGT students or other courses without formal prerequisites, does the “other requirements” box provide sufficiently specific guidance about required background in mathematics, programming, or other areas, and is it reasonable to expect most target students to have this knowledge? Please highlight any concerns.

I don't see any problems here.

4.3 Tags

If this is a level 9-10 course, do the chosen tags (Sec 5) seem appropriate? If not, please suggest changes. (SG will also review this section, in case you're not sure.)

n/a