

Agenda Item - Assign permanent course number to course on Biological Network analysis

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1. Background

As part of an NSF NRT PhD training grant I created the course "Computational and Mathematical Analysis of Biological Networks across Scales". The course has been taught twice - Fall 2017 and Fall 2018, and is scheduled for Fall 2019. It is one of two new 3 credit courses created for the COMBINE training program.

In association with the COMBINE training program, a post-baccalaureate certificate in Computation and Mathematics for Biological Networks was proposed to PCC, with a resulting statement of support from campus. A requirement for establishment of the certificate is that all associated courses have permanent numbers.

2. Purpose

I propose that the course is granted number CMSC 601. Today's item is for discussion only, no vote required at this time, but final approval requires vote from Education Committee.

3. Additional Information

- COMBINE program website: <http://www.combine.umd.edu/>
- PCC proposal:
https://senate.umd.edu/system/files/resources/MeetingMaterials/02052019/PCC_Proposal_Establish_PBC_COMBINE_18-19-28.pdf
- 4 CS PhD are currently or were funded by training grant
- Course website Fall 2018: <http://www.hcbravo.org/networks-across-scales/>

- Expected Course Outcomes:

At the end of this course, students will be able to describe, implement and analyze algorithms that solve fundamental problems in biological network analysis: descriptive summaries of network structure and properties, probabilistic and dynamical network models, statistical models for networked data and network visualization. They will also be able to apply these methods to data in networks from biological applications: molecular, neuronal and ecological networks by completing a semester-long project.

- Registration: the course is listed as a regular CS graduate course. CS students have priority. In the past, we have capped initial registration at ~10 fewer spots than max room capacity to allow COMBINE fellows to register into the course.
- In department agreement sent with PCC proposal, we would offer the course yearly until training grant funding period is completed (2021). After that, it will be offered as long as enrollment is above 15.