

Education Meeting Minutes Friday, April 26, 2019

The meeting was convened at 2:30 pm.

According to the by-laws, there must be a quorum for voting, this would mean at least half of the members who are not on sabbatical or leave of absence must be present. Quorum was met with 34 people.

1. Allow grad courses to count for undergrad degree area requirements: Levin presented the proposal. The proposal outline was sent via email ahead of the meeting.

Proposal: Allow undergraduate students including those in the Honors program to count masters-qualifying grad courses towards undergraduate area requirements. Currently, grad courses just count as elective 400-level credits for undergrads. They don't satisfy area (breadth) requirements. As a result, some of our top students can't fit grad courses into their schedules to graduate on time.

The prerequisite requirements and the process to take graduate level courses such as getting permission from the professor will remain the same. Initially, the proposal is to allow N number of grad courses to count towards undergraduate area requirements. Grad courses are not one-for-one replacements for undergrad courses, therefore, it is important to limit the number of courses to a small number.

This new proposal will allow Honors students to just take a grad class rather than an honors version of a 400-level class. The honors version of a 400-level class is confusing, time-consuming for professors, and not very useful. Grad classes, on the other hand, give some of our top students the feeling of attending a small liberal arts school. Levin pointed out that his undergrad security course is about 200 students while his grad security course is about 20 students. Additionally, this offers more flexibility to students to be able to take a graduate course and still be able to graduate on time.

Abadi commented "I love the idea of making it easier for undergrads to take more grad classes, but one thing to keep in mind is that TA support for grad classes at UMD is much lower than at other universities and even our undergrad classes here at UMD. I was informed this week that you need to have 60 students in a grad class to have a 20 hour/week TA (when I was at Yale, this number was 20). If our grad classes are going to have large numbers of undergrads, I really think we should consider increasing the TA budget for grad classes --- taking that budget away from undergrad classes if we have to."

Plane pointed out that in order to allow a certain number of graduate course to count towards area requirement, someone needs to map out what graduate course will match with what area requirement. We will also need to figure out how to apply the grad courses into area requirement on uAchieve.

Hicks moved to vote on the proposal. This proposal will be effective immediately in Fall 2019.

37 yes, 1 no, 0 abstained. Quorum was met and the proposal was approved.

2. Delivery consideration for four-course data science certification (CMSC 64X courses):

Hicks started the meeting. Corrada Bravo presented the proposal. The proposal outline was sent via email ahead of the meeting.

Proposal: To create an alternative delivery of the Graduate Certification in Data Science. The CS Department currently offers a four-course Graduate Certificate in Data Science (CMSC641 Principles of Data Science; CMSC642 Big Data Systems; CMSC643 Machine Learning and Data Mining; CMSC644 Algorithms for Data Science).

The four courses (CMSC 641-4) are currently offered on campus, each meeting once a week for 3 hours according to the regular academic calendar. Through conversation with companies, Capital One, in particular, we have identified an interest for their employees to take these courses. One consistent request we have heard is the possibility of offering versions of these courses on-site. Students from industry partners seeking certification would need to complete these four courses, each delivered in a manner that ensures the same instructional time as the current on-campus offerings (3 hours per week, regular 14-week academic calendar).

CMNS has a science academy that has professional masters including Data Science. Students in this alternative delivery format can start with the certificate program and continue on with the master's program. The science academy has a goal in the future to teach on-site.

If positive, a formal proposal to campus will be prepared and presented for approval to Education Committee and PCC thereafter. During a future meeting, the committee will discuss possible delivery formats for these courses as the frequency and length have to be adjusted for on-site courses. A blended approach might be best. There are 4 different options to consider:

- On-site only
- Online/in-person blended with high frequency
- Online/in-person blended with low-frequency discussion
- Online/in-person blended with low-frequency lectures

The committee discussed and agreed that an alternative delivery of the certificate program will be great as long as the instructor is willing to do it and as long as it doesn't compromise the rigor of the course. Hicks pointed out that the demand for on-site courses has the potential to grow the certificate program.

Hicks moved to vote on the proposal.

32 yes, 0 no, 2 abstained. Quorum was met and the proposal was approved.

3. Upper Level Concentration Requirement: ACES minor to be allowed: Plane presented the proposal. The proposal outline was sent via email ahead of the meeting.

Proposal: To allow ACES Minor to fulfill the Upper Level Concentration requirement for current Computer Science Students. All students must complete a minimum of 12 credit hours of 300 - 400 level courses in one discipline outside of CMSC. Previously ACES Minor did not count as an ULC because it was thought that it might have too much in common with computer science to add breadth. However, the ACES Program curriculum provides a multidisciplinary approach to cybersecurity and includes courses that are both technical and non-technical. These courses are quite different and yet compliment the computer science major very well.

ACES is the Advanced Cybersecurity Experience for Students run out of the Honors College. (ACES is a 2+2 program - there is a living-learning program for the first 2 years and a minor for the second 2 years where students can do one or the other or both.) Past HACS408 course offerings include technical and non-technical areas taught by professionals in the industry such as from NASA. ACES has courses in areas like Cyber Policy, International Cyber Policy, Cyber Psychology, Incident Management, etc. in addition to ones that are more related to CS, but not taught in CS, like Reverse Engineering and Penetration Testing.

Another consideration is that ACES has a \$5M Scholarship for Service program from NSF (CyberCorps) which allows students completing the ACES minor to receive a full ride scholarship while working toward completing their degree.

The committee discussed the multidisciplinary aspects of the ACES Minor curriculum. Some faculty noted that we should be careful not to take away the breadth of experience that students should get through their Upper Level Concentration. Pimpawathin recommended that Academic Advisors can identify technical courses in the ACES curriculum that are too related to CS and therefore would not count towards the Upper Level Concentration.

Childs moved to vote on the proposal to be effective immediately for current students.

22 yes, 8 no, 4 abstained. Quorum was met and the proposal was approved.

4. Survey results on grad visit day and UMD CS grad program: Duraiswami presented the update. The outline was sent via email ahead of the meeting.

All students who were admitted to the Computer Science graduate program were asked to fill out a survey indicating reasons why they chose another school over UMD. Students who attended Visit Day were also asked to indicate what they thought about it. Duraiswami presented the survey results and invited comment and ideas for improvement. About 40% of the students who said no to UMD responded to the survey.

Responses indicated the following preferences at another institution over UMD: location, faculty rankings/reputation in interest research, better research interest match, better salary/benefits, department culture, facility, and academic program requirements.

The most popular event for Visit day that helped students make a decision for UMD was the 1:1 meetings. Students indicated that they wanted more peer interaction with current graduate students. The survey showed that our visit day is comparable to other schools' visit days.

The committee discussed the results and suggested some ideas for improvement. The committee recommended adding to the survey what university students chose over UMD and what their preferred research areas are. Duraiswami suggested making a 2-day visit day event to be more aligned with other universities. This will allow more face-time with faculty and students and allow for more scheduling flexibility.

5. Managing course numbers, and moving to permanent offerings: Hurst led the discussion. The outline was sent via email ahead of the meeting.

The CS department offers a variety of grad and special topics courses, and in doing so we are running out of course numbers. This is because we are not allowed to retire numbers easily, since doing so would otherwise preclude a student from taking two courses with the same number but very different content. A solution to this problem is to migrate courses to more permanent numbers while not committing to a particular set of course topics too soon.

Registration rule is to maintain course number and course name for 5 years before retiring and recycling the number. If a course is offered 3 times, then it should become a permanent course number. Some of the current special topic courses have been offered frequently but still are under special topic course code. A question was raised what other requirements are needed for a permanent course number.

Hurst will reach out to faculty to facilitate the process for some of the frequent special topics courses to turn into a permanent course number. The process will include going through PCC approval.

6. A discussion on a slightly new structure for managing grad admissions: Duraiswami presented an overview of the admission process for the PhD and MS program.

The current admission process for the PhD, MS, and BS/MS program is highly centralized and all decisions flowed through David Jacobs. With an increasing number of applicants, the current process will be hard to maintain.

Current admissions process:

- Student volunteers reviewed applications following provided rubric
- David Jacobs referred highly ranked candidate to faculty members, capacity constraints on various hot areas.
- Many international candidates were evaluated by students
- Faculty volunteered and were assigned to particular geographic regions
- Web-system designed by Neil Spring; admissions.cs.umd.edu

Issues:

- Many good students did not get a faculty review
- Some areas did not get enough admits
- Discussion around capacity constraints
- Replied on a team of a volunteer faculty

Additionally, there is an increasing number of students in the BS/MS students. There were 23 undergrad students in the Fall and 6 undergrad students in the Spring that were admitted into the BS/MS program. There is a concern that there is an increasing number of students who want to do BS/MS program. We are working on streamlining the process for how many students we admit to the BS/MS program. Faculty pointed out that the BS/MS is a great program for students who are interested in PhD but learned about research late in their undergrad program.

The proposed admissions reforms for 2020 is to create an admissions committee with a new admissions system (likely on Salesforce CRM). We are also looking to create a system that will avoid bias. Duraiswami requested for comments and feedbacks regarding the admissions process to be sent to him via email.

7. Assigning a Permanent Number (CMSC601) to the COMBINE program: Corrada Bravo presented the proposal. The proposal outline was sent via email ahead of the meeting.

Proposal: To assign a permanent number (CMSC601) to a graduate course associated with an NSF training grant (the COMBINE program) and a newly proposed post-baccalaureate certificate in network biology.

This is a discussion item before making a formal proposal. The course is really popular, however, since most of the students are not CS students, we are asking the committee's feedback to make it a permanent course number under CMSC. Duraiswami pointed out that if the program was officially approved through PCC, it should be okay to assign a course number. There was not sufficient time to fully discuss this topic.

No votes were taken on this proposal as a quorum was no longer met.

Meeting ended at 3:30 pm.