

Education Meeting Minutes Friday, November 15, 2019

The meeting was convened at 3:00 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. 36 people were needed to meet quorum. Quorum was met with 40 people.

1. Change requirements to decouple CMSC216 and CMSC250 so they are not corequisites: Hicks led the follow-up discussion from last meeting. This proposal outline was sent via email prior to the meeting.

For CMSC216, CMSC250 is listed as a corequisite. However, for CMSC250, CMSC216 is not listed as a corequisite. If students wanted to take 216 or 250 over the summer (e.g., following a passing grade of 132 in the Spring), they would either be forced to take both classes, or just 250; they could not take just 216. And yet, doing 216 over the summer might be a smart option (compared to the regular semester) since it's very coding intensive and thus maybe a good idea to take it on its own, with no other classes.

Historically, it was to ensure that students take the 200's first. The coupling of courses prevented people from putting off CMSC250. However, that is no longer possible as CMSC216/250 are prerequisites for CMSC330/351. Decoupling the two will allow students the opportunity to take them apart if they choose. However, the advising team will ensure the recommended path is communicated to students.

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

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

2. Re-consider approach to granting permission for 400-level courses: Hicks led the follow-up discussion from last meeting. This proposal outline was sent via email prior to the meeting.

Right now, the course permission process for non-majors for all 400 level courses is as follows:

- Undergrad CS and CE students and grad CS students get first pick at courses at the time of registration. CS grad students get permission from the CS Assistant Director of Graduate Studies.
- All non-majors fill out a form to request courses and are granted permission on or around the first day of the semester.
- Undergrads must meet prerequisite requirements. However, grad students take the course at their own risk. The undergrad office administers the stamps.

Proposal: The Undergraduate Advising Office will separate the permission granting process for non-major undergraduates and non-major graduate students by creating two separate forms that will be live on <https://undergrad.cs.umd.edu/forms>.

- **Date permission granted and # of courses:**
 - Non-major undergraduate and graduate students will be *granted one CS course* permission, approximately one week prior to the start of the Spring 2020 semester. (*Friday, January 17 due to MLK holiday on Monday, January 20.*)
 - Non-major undergraduate and graduate students *may request a second CS course permission on/after the first day of the Spring 2020 semester* (January 27).
- **Course prerequisite requirements:**
 - Non-major undergraduates must meet prerequisites.
 - Non-major graduates currently do not have to meet prerequisites. However, they must obtain instructor permission to register for CMSC courses.
- **Process for non-major graduates for obtaining instructor permission:**
 - All non-major graduate students must obtain permission from the instructor in order to be granted permission for an undergraduate CS course. Non-major graduate students must email the instructor of the course to obtain written permission. They will complete the Graduate Non-Major Course Permission Request form and forward the instructor's approval via email to ugrad@cs.umd.edu.
 - Advisors will not grant permission until both steps have been completed. If multiple requests are made, the most recent course request will be honored. Students will be notified of the decision via email.

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

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

3. New joint [Robotics and Autonomous Systems Minor \(RAS\)](#): Hicks and Aloimonos presented the proposal. This proposal outline was sent via email prior to the meeting.

Robotics education currently is only for graduate students. There are many CS undergrad students who would be interested in studying robotics. The [Robotics and Autonomous Systems Minor \(RAS\)](#) is jointly run by CMSC, ENAE, ENEE, and ENME to offer robotics education to undergraduate students. This is a great opportunity to collaborate across computing majors on campus. The RAS minor will be a two-year program of advanced study in robotics for juniors and seniors. Students will apply during the early spring of their sophomore year to enter the program in the fall of their junior year. The goal is to start the RAS minor in Fall 2020, administered by Maryland Robotics Center Education Committee (MRC).

The program requires 18 credits total. However, students are required to complete prerequisite requirements in the following courses.

RAS Minor (juniors/seniors)	
Credit Hours	Minimum of 18 credits after prerequisites
Prerequisites	Math: Calculus I (MATH130, MATH140, MATH220) and Calculus II (MATH 141) and Differential Equations (MATH 246) or Dynamics ENES 221
	Programming: CMSC131 Object-Oriented Programming I or ENME 202/ENAE 202: Computing Fundamentals or ENEE 150 Intermediate Programming Concepts
	Previous practical experience (such as internships and/or research) related to robotics is a plus on the application.

The 18 credits include the following 4 required courses from the respective programs and two 400-level elective courses:

- ENME488* Introduction to Robotics: Modeling and Control
- ENAE488* Robotic Programming
- CMSC488* Perception and Planning
- ENEE488* Robotic Project Class
- Students can also choose two 400-level elective courses from a list of ENME, CMSC, ENEE, and ENAE courses.

*The 488 designator refers to a temporary course number; permanent course numbers will be requested.

The funding that will be required for this program will be given by the Maryland Robotics Center - \$50K. The required class to be given by Computer Science is CMSC488* Perception and Planning.

CS students can use the Robotics Minor to satisfy their upper level concentration (ULC). They can use 12 credits of 400-level courses from ENME, ENEE, and ENAE to count towards their ULC. However, students would not be allowed to use any CMSC courses for their ULC.

The [Robotics and Autonomous Systems Minor \(RAS\)](#) proposal outlines the admission and acceptance criteria to the program on page 9.

Hicks moved to vote on the proposal. The goal is to start the RAS minor in Fall 2020.

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

4. Limit CMSC upper level elective credits: Hicks presented the proposal to limit elective credits to only allow one CMSC499A and to limit elective credits to at most 3 credits of CMSC388/389X courses. This proposal outline was sent via email prior to the meeting.

Currently, our curriculum proposal doesn't officially state there is a limit of 3 credits for CMSC499A nor 3 credits of CMSC388/389X. Hicks proposed that we make what is on the webpage consistent with official curriculum documents.

Hicks concluded that there will be a formal proposal sent to guide further discussion at a future meeting.

5. Piazza vs. Campuswire, and other options for online discussions: Filippou presented the proposal. This proposal outline was sent via email prior to the meeting.

There are several areas where Piazza is not an optimal platform for the department to use. Though Piazza is working to update some areas such as duplicate posts, there has been competitors like Campuswire that have a more modern platform and provides a more responsive JS-based communication framework. Campuswire has free versions currently but could turn into paid version soon. For the pro version, it is \$25/student per semester but for unlimited courses.

Filippou plans to administer a short-term deployment to test the platform. He intends to replace Piazza with Campuswire at least for Spring 2020's CMSC250 (order of 800 students). Plans to also use it for communication with TAs. Filippou has talked with CS IT staff regarding Campuswire. However, there is not a formal process to get a software approved.

The following questions were raised by the committee:

- How much does it cost?
- Is there a difference in features compared to Piazza?
- Does it have an API (currently Piazza doesn't have it)?
- How long has Campuswire been released? How stable is the company?

More research is needed for concrete answers. Filippou will do further research and present his findings to the committee at a future meeting.

No votes were taken on this proposal.

6. GradeScope for auto-grading for programming assignments: Justin and Nathan (Gasarch and Duraiswami's TAs) led this discussion.

GradeScope is a platform for grading assignments and homework. Gradescope has a feature that allows AI-assisted grading that allows for automatic grading for certain types of questions. GradeScope could automatically grade programming assignments based on set settings. It also recognizes several languages. For CMSC456, GradeScope allows students to use whatever language they would like to write their code, and then compare output line by line.

GradeScope features:

- Set automatic grading configurations
 - Set up script -> installing dependencies
 - Auto grading script -> output results.json
 - junit(java), unittest (python) can output to results json (with help with libraries)
 - Configuration (settings online): timeout, cpu available
- Add manually graded assignments to look for some things like coding style, commenting
- Write scripts to check for coding style
- Set certain questions to be automatically graded and some to be manually graded questions by the script within the same assignment.
- Limit number of submissions
- Use different programming languages like python, rubi, java, c++
- There is a moss integration in beta to check for plagiarism. This is not available yet, you have to contact GradeScope to get access.
- Regrade functionality exists for the manually graded parts.

The committee raised the following questions:

- What other grading systems are there that would integrate with gitHub?
- Is there a computing power to run 800 students" submission on GradeScope?

No votes were taken on this discussion.

7. Discuss TA allocation policy: Hicks and Hurst presented the [new TA allocation policy proposal](#). This proposal outline was sent via email prior to the meeting.

The following two documents outline the written policy and number breakdown of TA allocation.

- [TA Assignment Policy](#).
- [TA Numbers Cheat Sheet](#)

There are more undergrad TAs because of demand and cost. The department must keep in mind the PhD TA requirements. MS TAs do not have guaranteed funding. BS/MS TAs have lower rate but high quality since they usually have been TAs while as an undergrad.

Proposed change: 20 TA hours allocation for 40 students (instead of 30 students) for 400-700 level courses

Course Level	Student Enrollment Requirement	TA hour allocation	Hour Bonus/# discussion sections
100-300	30 students	20 hrs.	3 hrs.
400-700**	40 students	20 hrs.	3 hrs.

800***	30 students	10 hrs.	N/A
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- *CMSC412 is an exception, with it getting allocation similar to 100-300 level courses.
- ** Courses cross-listed in other departments (i.e. AMSC) will assign their own TAs unless a sizable portion of the students in the class overall are from CMSC.
- *** Get a ½ grad TA at 20 students. Full grad TA at or approaching 40.

New TA application system:

- Help instructors see their TA balances and grad/UG ratio
- Help Hurst see live enrollment data and enforce TA formula (3:1 UG:grad ratio)
- Goal: reduce expenses and ensure equity to TA support among instructors
 - Reduce overall dept hours spent on figuring out TAs
 - Reduce cost by managing UG:grad ratio
- More mindful of requests (will not be allowing MS assignments except in extreme circumstances)
- Written policy to provide clarity and consistency

TA evaluation and feedback is important. Please send feedback so that a TA is not allocated again if they are not performing well.

The committee suggested that figuring out the right level of support is and then reduce TA support accordingly rather thinking about cost. Hicks explained that there will be flexibility with the baseline formula to consider quality of support.

A question was raised about allocating TAs based on enrollment, but real enrollment data is not figured out until close to the start of the semester. Hurst will review past enrollment data when assigning TAs to account for expected enrollment for courses.

No votes were taken on this discussion.

8. Discussion on when to have future Ed Comm meeting. Hicks led the discussion.

Should we switch Ed Comm meetings to lunch time? If the meeting is at lunch time, then it might help more members to attend the meeting. We need to schedule the Ed Comm meetings in advance, so it doesn't conflict with the FFL.

There were no objections to moving future Ed Comm meetings to lunch time (12:00 PM).

The meeting ended at 4:35 PM.