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Curriculum minutes 04/09/2012

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UMM CURRICULUM COMMITTEE
2011-12 MEETING #17 Minutes
April 9, 2012, 12:00 p.m., BCR

Present: Bart Finzel (chair), Joe Alia, Bryce Blankenfeld, Carol Cook, Clare Dingley, Caitlin Drayna, Janet Ericksen, Sara Haugen, Heather James, Leslie Meek, Peh Ng, Paula O'Loughlin, Gwen Rudney, Jeri Squier, Tisha Turk

Absent: Hazen Fairbanks, Ian Patterson

Visiting: Nancy Helsper, Elena Machkasova, Nic McPhee

In these minutes: Computer Science Program Review Report; Directed Study Requests for Gen Ed Designator of IP; and Course Approvals

1. COMPUTER SCIENCE PROGRAM REPORT

Finzel welcomed Professor Nic McPhee and Associate Professor Elena Machkasova, faculty in computer science, and asked them to talk about the distinctiveness of the computer science program; the connection between the program's curriculum, general education, and other programs; and curricular innovations and ultimate program goals. In four years they will be invited back to the committee for a brief follow-up discussion.

McPhee stated that the most challenging aspect of the program is how quickly the computer science field changes. They tell prospective students that their work history would be the second half of the entire history of the field. If you think about how much has changed in the first half, it is scary. The challenge is in how to design curriculum for something that changes that quickly. They have been successful by focusing on the big picture and concepts that age well. Students are given the skills and experience so they can continue to teach themselves after they leave. They have received good feedback from alumni that it is working well. One innovative practice they do is to choose electives each fall in consultation with students. That practice is good in terms of flexibility, but terrifying in terms of the teaching perspective. It requires a great deal of teamwork and strong communication skills, but our computer science faculty have been successful at it. It's important to do it that way because they are able to identify new areas that will be important and can incorporate them early. Computer science faculty members have successful faculty research records. They have supervised fourteen MAP students, eight UROP students, one LSAMP student, and they have received two Grants-in-Aid awards. Students have co-authored at international conferences, and one of the computer science faculty members received a highly competitive national award from Disney. All of these accomplishments were achieved within the five-year period of review. Machkasova added that they have begun using alumni to provide feedback on senior seminar papers. Alumni also share ideas about new tools, technologies, and concepts.

Machkasova explained the connection computer science has to other programs and general education. For a small program, they have contributed quite a bit to the general education program and have offered classes in FYS (and now IC) every year with the exception of this year. Several courses offer Gen Eds with no prerequisites. They

recently added a course that is a requirement for the economics/management majors. Introductory computer science courses satisfy electives in mathematics and statistics. They also teach a very popular course that attracts students from other disciplines and gives them a broad perspective on computer science: IS 1091- Ethical and Social Implications of Technology.

McPhee stated that program innovation in the last few years has been constant; every little thing is different than it was yesterday. Innovation plays out in electives that result from the fall meeting with students where they find out what students are interested in. They find themselves teaching courses no one has taught before, but if the students are interested, the faculty members quickly get up to speed on the topic. Existing courses change really quickly as new changes occur in Google spreadsheets and e-tools. They are collaborating on an NSF funded grant to increase computer security concepts in curriculum in the region. Last summer they were involved in buying micro controllers. A new set of tools for doing web development work was in part recommended by alumni, and a lot of work has been done to provide cool new opportunities for students. They have also been revising and clarifying their learning goals.

Machkasova talked about the goals of the program. They plan to follow industry and research. They will focus on cloud computing, web development, mobile computing, etc. In the last few years they were reduced from five to three full-time tenured positions. One position was lost to retirement and another to a resignation. They are trying to do the best that they can and cover as much as they can with the current faculty, but they are in need of an expert in systems and networks. There are wait lists for all of the intro classes and for several of the upper division classes. They are currently understaffed but are optimistic.

Another area where the current faculty are stretched is senior seminar advising. Each faculty member advises a maximum of four students per semester. This advising can amount to a significant amount of time and effort for the faculty members, even though the senior seminar is only one credit. Future goals include the expansion of the introductory course to widen the base. The intro class is a prerequisite for Data Structures. Data Structures is a funnel class that is a prerequisite for everything else. It would be nice to have two offerings instead of once a year. They would also like to add another elective course. They also have plans to continue collaboration with alumni and. In addition to the current amazing contribution of time given by computer science alumni, they would like to see the efforts in fund development strengthened to include contributions from alumni.

Finzel asked if there were any curricular changes imagined in the next couple of years. McPhee stated that they are thinking of the possibility of switching to a new programming language in one of the key introductory courses. Clojure is a programming language that is only a few years old. It represents a significant shift which might have a major world impact. There are no materials or textbooks available on it yet. Machkasova will work with students who are interested in the new language. A switch to Clojure would necessitate changes in the other courses being taught.

Ericksen asked for clarification on how the senior seminar advising works. Does one person teach the class and each student has an adviser outside the class? McPhee answered that Machkasova teaches the class and gets one course load credit. Each Computer science faculty member meets with their advisees and prepares them for the seminar. The faculty advisers receive no course load credit. Ericksen noted that there has been rising pressure for that kind of capstone experience, but it is hard to factor it into the course load.

2. ANNOUNCEMENTS

Finzel stated that there would be no meeting on April 16, due to an insufficient agenda to merit it. He announced that he was able to fund a couple of additional EDP requests because Ratliff-Crain withdrew his proposal. His award funds were split between Lackey and Waye. Finzel announced that he met with the Scholastic Committee. They endorsed increasing to 29 the ACT number that would mean exemption from the writing requirement. That change will begin immediately.

3. APPROVAL OF MINUTES

Motion: (Alia/Ng) to approve the March 19, 2012 minutes. Motion passed by unanimous voice vote.

Motion: (Ericksen/Patterson) to approve the March 26, 2012 minutes. Motion passed by unanimous voice vote with corrections.

4. REQUEST FOR GENERAL EDUCATION DESIGNATOR ON DIRECTED STUDY

Hist 3993-Turkish-German Berlin: Historical and Contemporary Perspectives (IP)

Motion: (Ericksen/Rudney) to approve both requests carrying the Gen Ed designator of IP. Motion passed by 12-0-0.

Discussion: Ericksen asked what GER the course carries. Meek replied that it is HIST. Ericksen stated that she looked out at the Learning Abroad Center (LAC) website to find out what Gen Ed it carries, but couldn't find the course listed. Squier replied that she had just received the list minutes ago. Dingley noted that the Twin Cities campus doesn't start registration until April 10, so it is not close to their radar. Ericksen stated that she would endorse the request because students trying to plan and do their May session can't wait to find out what GER is assigned to the course. Squier noted that it is not clear from the agenda, but there are actually two requests for the exact same directed study. Dingley asked why they are taking a directed study instead of the course if it is being offered. Squier answered that the directed study will be done in tandem with the course. The

directed study runs all summer. The students will work on it after they return from the study abroad course.

5. COURSE APPROVALS

Motion: (Ng/Cook) to approve the six new proposed courses and one revised course.
Motion passed by 12-0-0.

New Courses

- CSCI 4658: Programming and Languages: Usability, Design, and Mobile Technologies (M/SR; 4 cr)
- ENST 3001: Water Resources Policy (ENVT; 4 cr) [provisionally approved]
- ENST 3988: Environmental Studies Pre-Internship Seminar (1 cr)
- ENST 3989: Environmental Studies Post-Internship Seminar (1 cr)
- ENST 4101: Industrial Ecology (ENVT; 4 cr)
- PSY 3314: Child and Adolescent Psychopathology (SS; 4 cr) [provisionally approved]

Revised Course

- ENST 4901: Senior Capstone Experience (4 cr)

Discussion: Ng stated that CSCI 4658 is a new elective course approved by the division of Science and Mathematics. Meek stated that the ENST courses consist of four new courses (two of which have been provisionally approved) and one revised course. The new courses are the result of a new faculty member, and the revised course replaces the senior seminar. All have been approved by the Division of the Social Sciences as well as the Division of Science and Mathematics. Meek added that people were pleased with the creation of pre-internship and post-internship courses. Other programs are considering it, such as LAHS. Finzel added that economics/management should consider this too. Meek stated that PSY 3314 is a course that a new faculty member is developing to expand the offering of clinical courses.

Adjourned 12:36 p.m.
Submitted by Darla Peterson