

CALS Academic Planning Council

6201 Microbial Sciences Building

November 19, 2019, 1:00-2:30 p.m.

Attendees: Hasan Khatib, Rick Lindroth, Scott Lutz, Jamie Nack, William Tracy, Xuejun Pan, Michael Bell, Guy Groblewski, Erika Anna, Nicole Perna (1:05), Jill Wildonger (1:05)

Not Present: Guanming Shi, Jeri Barak, Barb Ingham

Ex Officio: Kate VandenBosch, Mark Rickenbach, Karen Wasserman

Minutes taken by: Sarah Barber

Meeting began at 1:00pm

Consent Agenda

1. Approve minutes for November 5, 2019 meeting (materials in Box)

November 5, 2019 minutes were approved.

Action and Discussion Items

Gloria Mari-Beffa, Associate Dean for Natural, Physical, and Mathematical Sciences, and Benedek Valko, Associate Chair of the Mathematics department provided an overview of the Mathematics for the Physical and Biological Sciences Named Option proposal. The current Option 2 math major is a highly customizable version of the math major. Students choose an area of application (out of 27 possibilities), and after a discussion with a math advisor they put together a plan involving 6 math and 4 application courses that are all connected to the chosen area in some way.

The Option 2 math major has been successful, around 3/4 of math majors choose that path. Unfortunately, there are a couple of issues regarding the Option 2 major:

- Officially the 27 areas are ‘tracks,’ which have been disallowed by the university
 - The actual major plan (the 6+4 courses discussed in the declaration process) cannot be tracked in DARS

During the spring semester the university notified the math department that the Option 2 math major would be discontinued by the end of the 2019-20 academic year because of these issues. They asked the math department to

Remaining 2019-2020 Meetings: Dec 3, Dec 17, Jan 21, Feb 4, Feb 18*, Mar 3, Mar 24, Apr 7, Apr 21, May 5, May 19
(*denotes joint meeting with L&S)

Chair: Kate VandenBosch

Division 1: Hasan Khatib ('20) Food Science | Xuejun Pan ('22) BSE

Division 2: Rick Lindroth ('21) Entomology | Scott Lutz ('22) FWE

Division 3: Guanming Shi ('22) AAE | Michael Bell ('20) CES

Division 4: Jeri Barak ('20) Plant Pathology | William Tracy ('21) Agronomy

Division 5: Guy Groblewski ('20) Nutritional Sciences | Nicole Perna ('21) Genetics | Jill Wildonger ('22) Biochemistry

Extension: Barb Ingham ('22)

Academic Staff: Jamie Nack ('20) | Erika Anna ('21)

submit a revised version addressing the issues above by November, to have the (revised) Option 2 available in Fall 2020.

The department decided to have a select number of named options, focusing on the most popular Option 2 areas. Similar to the other options, the Mathematics for the Physical and Biological Sciences option will require:

- 6 math courses above 300 with at least 2 above 500.
- One linear algebra course
- At least one intermediate level course
- Differential equations
- Advanced math
- 4 electives including two Physics courses

Under the old model, math offered several packages with biology. Out of 400 students only 10-15 took biology related packages.

Q: In the past not many students pursued the biological science math track. What does that student look like? Are they majoring in another program that requires math which led them to be interested in completing math as a second major? A: Yes, that is this situation in some cases. It should also be mentioned that five new courses have been created. The department is open to including other courses as electives. The courses need calculus requisite.

Q: Do you have faculty who work in biosystems and cellular systems? Many students don't know modeling biological systems exists. A: Yes, we have several faculty in this area.

Q: Can students who want to double major in biology and the math named option double count courses for each major? A: We allow students to double count.

Q: The title of the option is Mathematics for the Physical and Biological Sciences. The requirements for the program show that a student can complete physical science requirements and could technically never take biological science course. Is this true? A: Yes, this technically true. Because of the importance of math to biological sciences, and that we have faculty in this area, we feel it is important to keep it in the name to represent biological science opportunities.

Q: Do you offer bioinformatics? A: Yes and we could add bioinformatics as a course if the course has a calculus as a requisite. One of the current 27 options is bioinformatics.

Q: Do you offer Biostatistics? A: This is an area in the School of Medicine and Public Health, but it mostly serves graduate and professional programs.

Next steps: Submit proposal in Lumen within the next week. Need to submit by November so this part of math major doesn't disappear in fall. Positive feedback requested. One or two lines to indicate that we have no objections or perhaps that we like it. If you want some classes considered, present those to the math department anytime.

Motion to provide support for the Mathematics for the Physical and Biological Sciences named option:
Lindroth/Khatib

Vote: 11-0-0 in favor

3. Environmental Remediation & Management, Full Proposal
<https://next-guide.wisc.edu/programadmin/?key=1038>

Ed Boswell

Ed Boswell from the Soil Science department provided an overview of the proposed MS in Environmental Remediation and Management. The APC approved the Notice of Intent (NOI) last spring. UW System approved the NOI this fall. The program is now at the full proposal phase and will be seeking letters of support.

The program is a 30-credit master's program. It provides advanced training in technical aspects of environmental remediation, communication, project management, financial acumen.

The program will provide in-depth physical science knowledge related to soil and groundwater. Additionally, Occupational Safety and Health Administration (OSHA) Hazardous Waste Operations and Emergency Response (HAZWOPER) 40-hour training, required for workers involved in remediation work, will be provided as part of the program, streamlining the hiring and training process for employers.

Several new courses in Soil Science have been created for the program which have been approved. The program is using existing courses in Civil Engineering, Geoscience, Engineering Professional Development, and Life Sciences Communication. The Curriculum Committee will review the overall curriculum.

This is designed as a program revenue program. The program's 131 budget has been approved at the campus level.

Q: Is this degree required for this career path? A: Yes, based on data from the Division of Continuing Studies, a master's degree is a growing requirement.

Q: It appears many schools offer this type of program? Why is this program necessary and can it attract students? A: There are similar programs, but many are engineering programs. This program is different in that it will not require an engineering degree for admission. It also offers both technical and professional skills.

Q: What are the career prospects in this field? A: Careers in this field are split between civil engineering which is the design of systems and environmental scientists.

The Civil and Environmental Engineering department provided a letter of support. The Nelson Institute also provided a letter of support. For the full proposal, letters of support will be requested from the College of Engineering, the Nelson Institute, and L&S.

Q: How do you attract students outside of the midwest and have you considered incorporating an internship? A: An internship is something we'd entertain. The program includes a field course and the HAZWOPER course which are applied courses. On campus the MS in Environmental Conservation requires an internship. There is tremendous administrative burden on the program due to this requirement and limits enrollment.

Q: Have you considered making the program fully online to target industry professionals? A: There are three one-credit online courses incorporated into the program. One fully online semester is something to consider in the future.

Suggestions:

- Marketing to students in the Midwest needs to be polished and convincing that students will find jobs in the area
- Be more descriptive about the types of communication training students will receive (e.g., communicate with the press)
- Consider molecular toxicology connection
- C&E SOC might have a course regarding the community side of environmental remediation/environmental injustice. Michael Bell and Ed will connect

Motion to approve contingent on Curriculum Committee review: Tracy/Khatib

Vote: 11-0-0 in support

4. Summer Certificate in Business

<https://next-guide.wisc.edu/programadmin/?key=1065>

Background: CALS has been asked to provide a letter of support for this proposal. It is for a summer certificate in business which is similar to their existing certificate in business. This new certificate is expected to accommodate a much larger number of students (their regular certificate offered in Fall and Spring semesters is capped). CALS offers a certificate in business management for agricultural and life sciences. AAE and LSC provided feedback, which included discussion around allowing their courses to be included as prerequisites or in the certificate program.

Limiting the possibility of completing the AAE certificate in business management and the School of Business certificate should be explored.

Motion to provide support: Khatib/Lindroth

Vote: 11-0-0 in support

5. Review call for Spizte Land Grant Faculty Award

Overview: The Spizte Award recognizes faculty who exemplify the Land Grant philosophy through combined excellence in research, teaching, and outreach. The purpose of the award is to reward comprehensive scholarly performance over a sustained period of time. A subcommittee of CALS APC reviews the nominations. The committee is being asked to review the draft call for nominations. With the focus on applied research, the donor requested the inclusion of faculty in SoHE.

Q: There were complications in awarding last year. What will happen this year? A: Steps are being taken this year to address those issues.

Q: Should teaching, research, and outreach be evaluated equally? A: Recipient should demonstrate a well-rounded portfolio of research, teaching, outreach as this is the language of the award. Extension appointment is not required; outreach can be public service, or other outreach activities. The language is intentional to be inclusive of all three components, and as they relate to the Land Grant philosophy.

Informational Items and Announcements

6. Global Health Major update

The Curriculum Committee approved the Global Health capstone courses (4 out of 5 courses indefinitely, 1 course for 2 years), the CC reviewed the curriculum holistically and provided enthusiastic support for the program.

7. Dairy Innovation Hub, update on calls for Postdocs and Equipment

<https://ecals.cals.wisc.edu/2019/10/21/dairy-innovation-hub-request-for-proposals-for-postdoctoral-fellowships/>

https://ecals.cals.wisc.edu/2019/11/11/call-for-proposals-dairy-innovation-hub-seeking-applications-for-capital-equipment/?utm_source=ecals_email_newsletter&utm_medium=email&utm_campaign=ecals_email_newsletter

RFPs are available. One is for post docs and one for capital equipment and major infrastructure. Small grants will be available for short term/high impact efforts; calls to come soon.

Two open brainstorming sessions are being held. The intention is to identify high impact research areas to support the dairy industry. The next step will be to refine faculty searches. The first session was last week with 16 participants providing a vigorous discussion. The second will be Dec 2, 2019.