Memo to: Members of the GFEC

From: Don Stone, Chair, Materials Science and Engineering

Date: October 24, 2014

Re: Response to the request of the GFEC dated June 27, 2014

I am delighted to respond to your letter concerning assessment of the Materials Engineering Program and its potential merger with MSP.

There is concern about the “very low enrollment” of the Materials Engineering program with the high fraction of foreign nationals in the program. Currently we have 25 students in Materials Engineering, which is up by a factor of 5 from 3 years ago when we first decided to grow the program again. We grew by about 8 students per year in the past two years, and we foresee similar growth in the program if it continues along its current path, separate from the Materials Science Program. So in terms of size the Materials Engineering program is headed in the right direction.

The department agrees that the domestic enrollment in the Materials Engineering program is too low. To counteract this problem we have placed greater focus on recruiting domestic students by contacting them directly and by mailing graduate program fliers to other Materials Departments across the nation. We will also lower the numbers of admissions of foreign students until balance is achieved. Lastly, we believe that merger with MSP will help us reach the balance, since (for reasons that are not entirely understood) domestic students who are admitted to both programs almost always choose MSP even though they eventually work under supervision of faculty in Materials Science and Engineering.

According to the report a small sample of students expressed frustration in finding information on the web page about the graduate program requirements and grievance procedures. The department indeed held, online, a handbook that includes grievance procedures. We had constructed this handbook based on our discussions with Wendy Crone based on examination of graduate handbooks from other departments in the College of Engineering. Since that time we have maintained and updated the handbook twice per year. Nevertheless, some students might not have known about the handbook. For that reason in September of 2013 we implemented a policy of reading through the handbook with incoming students during orientation. We also discuss degree program requirements and grievance procedures in our 900 series seminar. Thank you for notifying us of the template at https://kb.wisc.edu/GSAdminKB/page.php?id=34123. We will use this template to help modify and improve our student handbook.
Throughout the past two years the department has held continuing negotiations with the Materials Science Program (including 6 full MSP meetings and numerous committee meetings) on the matter of a merger. In September of this year faculty in Materials Engineering Program and the Materials Science Program voted overwhelmingly for merger following a plan drawn up by an interdisciplinary committee chaired by Dane Morgan of our department (86% in favor, 7% against, 7% abstain, 44 out of ~70 members voting). Likewise, students in the two programs voted overwhelmingly in favor of a merger. As you noted, such a merger cannot be informal but must entail removing one of the programs and renaming the other following official governance actions taken through the University. The faculty recommendation for merger was sent to Dean Ian Robertson, who then requested we revise the plan to make it more workable. He was concerned that the proposed governance structure is too unwieldy and that the plan maintains existing problems including separation of the programs and lack of faculty participation in MSP. Dean Robertson then gave the department the following directive:

“I ask that the department develop bylaws for the operation of an affiliate faculty program that embraces and welcomes faculty from across campus that are engaged in materials science and engineering research. In developing these bylaws I encourage you to engage the broader materials science and engineering community across our campus. I see this as a critical step towards establishing an interdisciplinary, collegial materials science and engineering graduate program on our campus that is [led] and administered by the department. I would like to receive the department's bylaws for this activity no later than November 28, 2014.”

We are now working on the revised plan. We are designing the structure of the new program to align with top materials programs like Cornell, Illinois, and UCSB, that are highly interdisciplinary and hold large numbers of affiliate faculty. We have reached out to these programs to learn about their graduate requirements and faculty governance. To protect the interests of affiliate faculty – those from the Materials Science Program who would move into affiliate status with the department or who might otherwise enter into the program sometime in the future – the dean recommends that we build into our bylaws rules for affiliate status and grievance procure, along with the requirement of a yearly college review to insure that inclusivity is being met and students’ and affiliates’ diverse needs are being served. As the largest stakeholders in MSP by far (95 students out 120 advised in both programs), we in Materials Science and Engineering take this task very seriously. We recognize the importance of interdisciplinary research, since much of our research is precisely that; and we recognize the importance of not weakening the degree or damaging inclusivity because doing so will hurt us first and do us the most harm. Ray Vanderby, director of MSP, and I are working together to construct an initial draft of the new plan, which we will then submit to MSE and MSP. In the meantime, the Dean has also requested Materials Science and Engineering, since it advises the vast majority of MSP students, assume responsibility for day-to-day administration of the Materials Science Program. Ray Vanderby, Diana Rhoads, the one MSP staff member, and I have been cooperating together on moving Diana into MSE. So far this has been an amicable
process, yet we recognize the sensitivities involved and are proceeding both carefully and openly. We anticipate that handing the program over administratively will allow the program to gain from added department resources including monies for RAs and TA’s, monies to bring in seminar speakers, and greater faculty involvement. Lastly, as we construct a plan for the merged program, we revisit the idea of holding a Masters of Engineering program.
June 27, 2014

Professor Donald Stone  
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Dear Professor Stone:

As you know, an important part of the university’s ongoing review process is the vetting of graduate programs by the Graduate Faculty Executive Committee (GFEC) of the Graduate School. When the College of Engineering assembled a review committee to conduct a decadal assessment of Materials Engineering (MatE) graduate programs administered by the department of Material Sciences and Engineering (MS&E), a member of the GFEC was asked to join the committee and was given the responsibility of attending to graduate training issues of particular interest to the Graduate School. That individual was Professor Gloria Mari-Beffa who led a discussion of the review at the GFEC meeting on April, 11 2014. In this letter, I summarize the committee’s response and the GFEC discussion.

The response to the review was generally favorable. The GFEC appreciated that the Department of Materials Science and Engineering is ranked 15-20 in the nation and has a productive faculty. This letter will not reiterate all the recommendations contained in the review, but will emphasize those that generated most of the discussion at the GFEC meeting. Given that time has elapsed since the self-study and review, we realize that the department may have already begun to address issues identified in the review; however, the GFEC raised the following concerns and would like to receive an update from you on progress and future plans.

- There is very low enrollment in the MatE program. In the last ten years, there were 0-5 new Ph.D. students per year and 0-3 new M.S. students per year. Furthermore, in the last five years, only three Ph.D. degrees were awarded and only one M.S. degree was awarded. The GFEC was also concerned with the composition of students and an unusually high number of international students. In recent years, the percentage of international students has been in the range of 70-80%. The imbalance within the composition of students could be due to low enrollment issues. For all these reasons, the low enrollment status of the MatE program was not deemed desirable and action is needed to make the program more diverse, viable, and successful for the future.

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• While a small sample size, the graduate students were generally satisfied with the program, though some expressed a bit of frustration with finding information on the web page from program requirements to grievance procedures. The program should promote and improve its website and handbook. A handbook template for graduate programs can be found here: https://kb.wisc.edu/GSAdminKB/page.php?id=34123

• It is important to diversify and increase the number of graduate students in the MatE program. One recommendation is to merge with the Material Sciences Program (MSP). The MSP is an interdisciplinary program with a flexible curriculum and faculty involvement from across campus. Discussions of merging should continue and should engage all faculty in the MSP and MatE programs as is important in the context of faculty governance. Some concern was expressed at GFEC about the possibility of weakening the larger MSP in a merger and such a situation must be avoided. In addition, in these discussions, it should be recognized that both programs offer Master of Engineering degrees although not presently utilized. Finally, a “merger” is not an official governance action. Instead, units/programs have the following governance options available that ultimately result in what is recognized as a merger: discontinuation, rename, change in administrative unit/home.

As the majority of the discussion at the GFEC meeting focused on the potential merger with the MSP, we request that you update GFEC, no later than November 2014, with a written report on how you are addressing the low enrollment in your program and the potential merger with MSP. The above concerns notwithstanding, the GFEC is pleased to accept the report of the review committee.

Sincerely yours,

\[Martin Cadwallader\]

Martin Cadwallader
Vice Chancellor for Research
and Dean of the Graduate School

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