Three-Year Check-In for New Programs

The creation and maintenance of graduate programs and certificates represents significant resource commitments by faculty and staff. Given these investments, in 2014 the Graduate Faculty Executive Committee (GFEC) established a “check in” process for newly approved programs and certificates prior to their first formal university review (which occurs in the fifth year.) Through this “check-in,” the GFEC hopes program faculty and staff will assess the implementation of their new program and determine what mechanisms may be needed for sustained student success.

Progress reports will be included on GFEC agendas, and program representatives may be asked to attend GFEC if additional information is requested. In the interest of brevity, please keep responses to 300 words or less.

Program Name


Term of First Enrollments

Fall 2018

Check-In Completed By

Carl Sovinec

Date Completed

September 24, 2021

Academic Quality and Student Success

1. Provide an update on any changes to the program’s curriculum and learning outcomes. Include a description of the program’s typical course modalities (face-to-face, online, asynchronous discussion, team or individual assignments) and if courses have evolved based on faculty or student feedback.

EM Fundamentals of Applied Mechanics (FAM) is a coursework-only accelerated MS program with required and selected electives with modalities being traditional in-person lecture, physical laboratory, and computer laboratory. The coursework was carefully chosen for the intent of the degree program, which is to help science graduates transition to the engineering field. Most of the courses in the curriculum are required for all students. There is only one elective in each of the fall and spring semesters of the one-year program. Most of the courses have individual-based assignments, but the laboratory courses include teamwork among small groups.
All of the courses existed prior to the development of the FAM program and are part of other undergraduate and graduate degree programs. They have not been modified based specifically on any FAM-related feedback.

2. Please reflect on the diversity of your student population using the data provided by the Graduate School. What efforts have you made to recruit a diverse student population, and what inclusion efforts have you made to ensure the success of the diverse population of students in the program? What areas of opportunity exist for future recruitment of diverse populations? (See here for Institutional statement and working definition of diversity.)

The number of applications, admissions, and enrollments has been too small to draw statistically significant information on diversity. However, we have targeted domestic minority participation in the program.

With respect to recruiting for these early years, we have relied on recruiting assistance from Continuing Studies and from the College of Engineering accelerated MS initiative. We provide application fee waivers for prospective students of targeted domestic minorities who contact us. We have also permanently dropped the GRE requirement for all of our accelerated MS programs.

Understanding that economics is a large factor in supporting a diverse student cohort, we are now providing scholarship funds to cover 50% of the tuition costs for students of targeted domestic minorities. We use the AOF eligibility information on applications to help identify such students. We offer the scholarships to these students after they have been admitted to encourage enrollment in addition to easing financial burdens after matriculation. To promote the success of our accelerated MS students, they are assigned to faculty advisors who provide individualized mentoring on how to be successful in graduate school, along with recommendations on course selection.

3. The GFEC is interested to learn how departments balance faculty and staff teaching loads and responsibilities between new and existing programs. Discuss how the department or program is achieving balance, and what challenges supporting multiple programs may have created for teaching, student services, advising or funding. Also of interest is information on what if any assets are shared between programs, or additional benefits that have been realized.
With the small enrollment numbers and the fact that this program is assembled from courses that are taught for our other degree programs, balancing teaching loads has not been a problem.

4. Please describe how your program has ongoing and broad faculty commitment, including governance, to ensure its continued success. If applicable, reflections from faculty and staff can be included here or as an appendix. Also consider if implementation of this program is supporting the Department and/or School/College’s current strategic goals.

Governance for this accelerated MS program is through the Graduate Studies Committee of the Engineering Physics Department. The initiative for the program included Engineering Mechanics faculty members who are not on the committee, and their input is requested for significant changes to the program. The overall status of the program is communicated to all faculty members of the EP Department.

*Operations and Administration*

5. Explain through a brief narrative how the program has brought in NEW and ADDITIONAL students and met projected enrollment goals (required for non-pooled programs), and how overall enrollment in your related programs has remained steady (if relevant). Provide enrollment data from the past 3 years: See here for degrees & named options and here for capstone certificates. If unanticipated overlap with existing programs has resulted, discuss steps to mitigate the overlap.

*Non-pooled programs should also provide the updated budget template populated with data from the past year and current year, along with projections for the next 3-5 years. This updated budget template will also be reviewed by the Program Revenue Budget Committee.*

The students who have enrolled in this degree program are all new students. Individuals with undergraduate backgrounds in mechanics fields are not eligible for admission, as the intent of the program is to help those with a science background transition into a potentially more practical field. Thus, there is no unanticipated overlap with existing programs.

Our enrollment information is shown in Table 1, and our goals have not been met. We had anticipated a large application pool and expect that such a pool exists, regionally. However, part of our marketing assistance was bundled with that for other engineering programs which sought candidates having engineering backgrounds. This strategy likely did not reach our intended audience. Marketing efforts that were specifically targeted for the intended audience include:
• Marketing emails for FAM were sent to all seniors in math and physics at UW-Madison (662), University of Minnesota (382) and Southern Illinois University (33) in both February and March 2018.
• FAM program information was emailed to 120 physics faculty in every college with a BS physics program in Illinois, Minnesota, and Wisconsin. The emails were sent on 3/14/18, 10/22/18, and 10/10/19.
• The FAM program was presented to physics students and faculty at Edgewood College 4/18/18.
• In fall 2019 4,500 promotional emails for the FAM program were sent and re-sent several times to math and physics majors through purchased GRE lists, and directly to UW-Madison math and physics undergrads.
• Since program inception, DCS has included the program in the larger marketing campaign for all engineering accelerated programs. While directed at engineers, the campaign is extensive and attracts computer science, physical science, and math-based non-engineers to many of the programs.

<table>
<thead>
<tr>
<th>Year</th>
<th>Applications</th>
<th>Admissions</th>
<th>Matriculation</th>
<th>Status</th>
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<td></td>
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<tr>
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<td>2</td>
<td>2</td>
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<tr>
<td>2021</td>
<td>3</td>
<td>3</td>
<td>2</td>
<td>1 enrolled</td>
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</tbody>
</table>

6. Funding Considerations

a. For traditional/pooled programs – How is the program successfully funding its students?

b. For non-pooled programs – Refer to the updated budget template in addressing if the program has sufficient enrollment for sustainability. Discuss the current market outlook compared to the original marketing study and plans to grow or change the program to become sustainable.

The program does not have sufficient enrollment for sustainability. We are presently expecting to suspend and discontinue this accelerated MS to focus on others.
7. If the program admits international students, describe how program processes address length of stay visa issues, online course restrictions, and needing ESL services.

The program can accept international students, but no admitted international student has enrolled so far. The program has relatively high ESL testing requirements to avoid having language become an impediment with respect to the accelerated pace. Many international applicants were likely seeking programs with financial assistance and enrolled at other institutions.

8. Are there any issues impacting the program’s long-term sustainability? If so, what support would you like to help you succeed?

A new marketing strategy might help make this program sustainable. It would have to reach the intended audience: graduates wishing to transition to engineering while having sufficient scientific and mathematical knowledge and skills to be successful in a fast-paced MS engineering program. However, given the previously attempted specific marketing efforts for FAM that are noted above, new efforts are not warranted at this time.