

Permanent Status Program Review for Biomedical Engineering
Stefanie DeVito, Assistant Professor of Biological Sciences.
Stephanie Law, Clare Boothe Luce Assistant Professor of Materials
Science and Engineering

Objectives, Strengths, and Weaknesses

1. Does the major/program meet its originally stated goals and objectives?
 - a. Yes.
2. Is the major/program compatible with the Academic Priorities of the University?
 - a. Yes
3. What are the strengths and weaknesses of this major/program?
 - a. *Strengths - This seems to be an area of high demand where it is likely that well-trained students will be successful in finding employment.*
 - b. *Weaknesses - The assessments planned are not clear how they will survey students, and if those surveys are already validated and published surveys. Is there consensus in the department on these surveys and the content they should contain? Additionally, more structured assessments using already in-place student benchmarks should be implemented so that student performance can be evaluated throughout the program instead of only upon completion.*

Impact and Demand

1. Describe any significant impact the proposed curricula might have on other instructional, research, or service programs of the University.
 - a. *No.*
2. Are the admissions requirements for this major/program clearly stated and fairly implemented?
 - a. *Yes. It is unclear if they are being fairly implemented.*
3. Is there sufficient demand for this major/program to warrant granting it permanent status? Are enrollments strong?
 - a. *Yes, it seems enrollment and interest is strong.*
4. Do the students in the major/program receive appropriate advising and mentoring?
 - a. *It seems that there is sufficient advising including the graduate director, advisor, committee as well as other BME graduate students. The use of the IDPs is valuable for students.*

5. Does the major/program require additional student expenses beyond the traditional books and supplies, such that additional need for financial aid can be expected?
 - a. *It states all students are supported, however whether the stipend given to students covers basic living expenses without additional support cannot be determined from the report.*
6. Does the program have the support of departmental and affiliated faculty?
 - a. Yes.
7. Are resources available to support and maintain the program/major?
 - a. Yes.

Evaluation

1. Does the major/program address any of the ten goals of General Education at the University (question for undergraduate programs only)?
 - a. N/A
2. Has the major/program clearly delineated the knowledge, values, skills, and other learning outcomes that their graduates will be expected to have acquired?
 - a. Yes.
3. Has the major/program implemented a plan to evaluate and assess the learning outcomes of its students?
 - a. *The surveys indicated to be used to evaluate the various learning outcomes were not included. It cannot be determined from the report if the surveys are validated surveys or created in-house, and if there is consensus on these surveys among faculty. I would suggest having surveys that are agreed upon and vetted by faculty.*
 - b. *For the dissertation proposal, since an R01 format is being used, I would recommend that an agreed upon rubric be implemented such that there is a) consistency across committees as they evaluate candidates and b) a common evaluative tool that can be used analyze student competency and achievement of learning outcomes.*
 - c. *I would recommend scripting a handful of questions asked during all exit interviews in order to gain some qualitative data that can be analyzed on student perceptions on the program upon completion. Additionally, these interviews should be also be conducted with any students who leave the program without completing a PhD or MS.*
 - d. *The above quantitative assessment tools will allow for a variety of quantitative and qualitative data about student achievement of learning objectives **throughout** the program using already implemented benchmarks, such that information on student progress can be assessed*

in addition to the overall outcome of where they go after completing the program. This would also provide more immediate data year after year instead of only collecting data upon student defense of their PhD. Lastly, it would allow for possible publication of metrics of student performance year to year, which could be used for recruitment and advertisement of the program.

4. Please comment on completion and job placement of students who completed the program/major.
 - a. *These are impressive and promising.*

Additional Comments

Please add any observations or comments you may have about this major/program. *Information on how graduate students can change advisors in the event that the first group was not a good fit would be useful to include in the graduate student handbook and in the department policies.*

The program looks as though it will serve an important need here at UD and beyond. I believe it is well organized and structured. As mentioned above, I would recommend a more structured year to year assessment plan. Designing and implementing this early will allow for more data collection, quicker detection of missed benchmarks if they were to occur, and an increased probability that a solid assessment program will be implemented and made a standard feature year after year.