

Proposal  
to create the *Department* of  
**Materials Science and Biomedical Engineering**  
in the College of Arts and Sciences

*Request*

The Materials Science Program is making two requests. One is to transform its status from an academic program to an academic department and the second is to rename the unit.

*Rationale*

The Materials Science Program has experienced significant change since its inception in 2008:

- creation of the Materials Science (Mat Sci) major (in 2009), and the Materials Science and Engineering (MS&E) major (in 2016), and now creation of a Biomedical Engineering (BME) major (approved in 2019, accepting students in fall, 2021)
- the maturation and rededication of the Materials Science Center as the Materials Science *and Engineering* Center
- a successful site visit for ABET accreditation in Oct., 2019
- a new Transfer Articulation agreement with Changshu Institute of Technology

Associated with these changes and initiatives, rededicating the Materials Science Program as a Department would best serve the unit, college and university in the following ways:

- Aid in student recruiting by more clearly communicating the engineering options that exist at UW-EC
- Aid in faculty recruiting by establishing a clearer unit identity
- Align the current program with other academic units of similar size and scope
- Communicate more clearly with “outside stakeholders” about the status of the unit (e.g., ABET reviewers, who were confused by the multiple uses of the word “program”; local industry and business leaders who wonder what the word “program” signifies; faculty at other universities who indicate that “program” on their campus indicates a temporary group that by definition works together for a limited time and then is dissolved).

*Specific aspects of the unit that warrant establishing a department include:*

Size of the faculty – as of November of 2019, the MS&E Program is comprised of five (5) full-time tenured or tenure track faculty, all of whom have their “tenure home” in MS&E. The Program and Center enjoy the support of a full-time ADA, who works with the MS&E faculty, supports the Mat Sci majors, and supports the MSEC. This arrangement has been relatively stable for about five years.

With the approval of the BME major and a 2019-2020 search for the first of two Biomedical Engineering faculty members, the **Program faculty are expected to grow to 7.**

Major Programs – The Program currently offers two majors: Materials Science and Engineering, and Materials Science. The first is a 92-credit major and part of a 128-credit B.S. degree; it is quite tightly constrained by ABET accreditation concerns. The second is a 60-credit major and part of a 120-credit B.S. or B.A. degree that is far more flexibly designed, compared to the MS&E major. The approved BME major consists of 93 credits, part of a 128-credit B.S. degree, to begin in the fall of 2021. **The Program thus will be offering three distinct majors, two of them in Engineering.**

Students – There are currently about 30 MS&E majors and 30 Mat Sci majors. We anticipate that the total number of MS&E majors to increase by about 30-40 as dual-degree students from Changshu Institute of Technology (CIT) begin to arrive starting in January of 2020, putting the total number of Mat Sci majors in the range of 80-100. In parallel, enrollment in the BME program is expected to grow to 100 by 2027, **so that the total number of students in the proposed department will be approximately 200 by 2027.**

MSEC – The Materials Science and Engineering Center, combined with the MS&E major has raised the program’s profile within the local community. In particular, since the addition of the Materials Science engineering major, local companies and engineers suddenly see the Program and Center as “legitimate.” Yet many conversations with outside stakeholders indicate that the fact that we are not called a “Department” causes confusion and leads them to wonder what the label “Program” implies – and to wonder about the long-term viability of the Materials Science enterprise. **The proposed Departmental status more**

**clearly communicates with outside stakeholders. The renaming better captures the mission and nature of the unit.**

*Approved by MS&E Program faculty on 11/20/2019 by a vote of 5 for and 0 against.*

***Requested effective date: Effective upon approval at all levels of governance; changes to appear in the 2021-22 catalog.***