Dear Associate Vice Chancellor Phillips:

You have asked me to review your proposed new comprehensive major program in materials science and this letter serves to summarize my evaluation. Overall I find that the program will address a growing need among employers and graduate programs for students trained in the field, and that the program is timely, well designed, and consistent with good practice in the discipline.

Curriculum

The proposed curriculum is well balanced and consistent with conventional practice in the field. It also makes fairly efficient use of courses already in the books, with little apparent duplication. The core chemistry, physics and math requirements are appropriate, and balanced against a set of mid- and upper-division specialty courses that cover the major classes of materials and techniques. The incorporation of undergraduate research is an important component, one that will be valued by both students and employers.

Infrastructure

Instrumentation is an important part of any materials science program, and the portfolio of equipment at Eau Claire is especially good. In the areas of surface chemistry and microanalysis for example, the instrumentation holdings are comparable to what one would typically find at a small PhD program. Additional funding provided during the next four years should enable the program to assemble a best-in-class instrumentation collection, particularly if leveraged against external funds.

Staffing

The amount of technical staffing is an area of concern for me. The technician starts at 0.4 FTE, growing to 0.6 FTE. Is additional technician support available to the program not described in the proposal? If not I am worried that 0.6 FTE will be insufficient to adequately support the research and teaching programs, particularly in light of the large amount of equipment already on hand and planned for purchase over the next few years. A level of technical staffing closer 1.5 – 2 FTE will be needed to adequately support the training of students, upkeep of equipment, and to be reasonably responsive to the needs of regional industry.

It is a little difficult to follow how the funding for new faculty positions will be distributed and how many courses will be taught by existing vs. new faculty. However a couple of general points the organizers may wish to consider: 1) In establishing these new positions care should be taken not to create two classes of faculty with different relationships to the program (i.e. existing faculty vs. new hires), as this can lead to problems in the long run; 2) These new hires can present an opportunity to do something different with regard to interdisciplinary appointments; for example the organizers may wish to consider joint appointments bridging pairs of departments. Such positions have to be carefully structured, but when
they work well, they can be an effective tool for building connections while helping to create a culture of collaboration.

In summary, only a few peer institutions offer interdisciplinary materials science programs outside of engineering departments, with Western Washington University, James Madison University, and San Jose State University having programs most similar to UW Eau Claire. Among these, Eau Claire is farthest along and has the strongest resume of accomplishment. The program has been steadily developing, with a good track record of successful collaboration in teaching and research. The introduction of a B.S. degree option would continue the campus’s leadership in this area.

Sincerely,

David Patrick