Form B is due on or before October 15.

Please supply the following information

<table>
<thead>
<tr>
<th>Program</th>
<th>Broad Field Science</th>
</tr>
</thead>
<tbody>
<tr>
<td>Department</td>
<td>Engineering Physics</td>
</tr>
<tr>
<td>Current Academic Year</td>
<td>2014-15</td>
</tr>
<tr>
<td>Date of Last In-Depth Review</td>
<td>APC – 2007; AOC – 2012 DPI - 2010</td>
</tr>
<tr>
<td>Name of Program Contact Person</td>
<td>Philip Young (Andy Pawl as of 1/1/2015)</td>
</tr>
<tr>
<td>Position of Program Contact Person</td>
<td>Professor of Physics</td>
</tr>
</tbody>
</table>

To be completed by the program/department

1. In a paragraph, briefly describe your program’s Mission Statement and how it relates to the University Strategic Mission.

   The Broad Field Science program offers a Broad Field Science major and a Natural Science minor without actually “owning” any faculty or courses. The Broad Field Science major is a comprehensive interdisciplinary science major. Although students in the Broad Field Science major are not required to add an education emphasis, the primary goal of the Broad Field Science major is to prepare Early Adolescence/Adolescence Education students to teach middle school science, high school general science, and one or more high school science disciplines (Biology, Chemistry, or Physics). This goal contributes to the university’s mission to provide baccalaureate degree programs in teacher education to meet regional needs.

2. List your program’s long-term (5+ years) goals as reported on at your last APC review and describe how your program met those goals. If there was a need to modify those goals, briefly explain why.

   In 2007 the APC review identified 2 goals: improve the administrative structure of the Broad Field program and introduce a Broad Field Science minor. In 2012 the program set up a formal steering committee to administer the program within the Department of Engineering Physics. A program charter (see attached) was adopted at that time. DPI rejected our idea of a Broad Field Science minor as a path to certification in 10-21 general science. Therefore, the program implemented changes to the major requirements so students could more easily complete a double major in biology/chemistry and broad field science.

   Since the APC review in 2007 the program identified another need: a more accessible concentration in physics within the broad field science major. A new general education physics course has been developed to make this possible. It will be offered for the first time in Spring 2015.
3. At this point in your long-range planning, list your program’s most important (5+ years) goals and briefly describe the resources your program will need to be successful, as well as any concerns or issues your program is facing. Also briefly address how these goals support your program’s Mission Statement.

(maximum of three)

<table>
<thead>
<tr>
<th>Long-term Goal One</th>
<th>Support SoE’s initiative to add a STEM certification for their graduates</th>
</tr>
</thead>
<tbody>
<tr>
<td>Resources Needed</td>
<td>Unclear at this time</td>
</tr>
<tr>
<td>Issues or Concerns</td>
<td>This initiative is still in the planning phases. We are participating in that process</td>
</tr>
<tr>
<td>How Goal Supports Program’s Mission Statement</td>
<td>This emphasis would have a direct impact on the perception of prospective science teachers graduating from UW - Platteville</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Long-term Goal Two</th>
<th>Increase the number of students attempting a physics concentration</th>
</tr>
</thead>
<tbody>
<tr>
<td>Resources Needed</td>
<td>The new course PHYS 1900 is essential to this initiative. That course will run for the first time in Spring 2015. Some new lab equipment has already been purchased; more may be needed long-term.</td>
</tr>
<tr>
<td>Issues or Concerns</td>
<td>PHY 1900 will need reasonable levels of enrollment as a general education science course to be sustainable.</td>
</tr>
<tr>
<td>How Goal Supports Program’s Mission Statement</td>
<td>There is a shortage of certified physics teachers in the small school districts in SW Wisconsin (and in the state overall). Training teachers is part of the mission of UW – Platteville.</td>
</tr>
</tbody>
</table>

4. If your program was reviewed by any outside accrediting bodies since the last APC review, please identify the review body and briefly summarize the results in 1-2 paragraphs.

Broad Field Science went through the Department of Public Instruction (DPI) review of the university’s education programs in 2010. Broad Field Science, including the concentrations in Biology, Chemistry, and Physics, was reapproved for licensure by DPI, but the concentration in Earth and Space Science was not approved. It appeared the failure was due to procedural errors in the report, not to insufficient content. Documents for re-approval were prepared and submitted in January 2013, but they seem to have been lost in the shuffle. We need to get this issue sorted out so our students can be certified in Earth and Space Science. The concentration is still available for majors not seeking licensure.
Information Required by the Assessment Oversight Committee

5. Please provide the following information.

A. Program Assessment Plan
   i. List your program’s learning outcomes. For each learning outcome,
      a. Indicate when the last time each learning outcome was assessed.
      1. Broad Field Science graduates shall demonstrate familiarity with the major concepts and
         practices of the four science disciplines covered in the broad field science licensure of the
         Wisconsin Department of Public Instruction (DPI).
      2. Broad Field Science graduates shall demonstrate knowledge of one or more of the disciplines
         consistent with DPI certification at the secondary level.

      These learning outcomes were both assessed as part of the DPI review of the university’s education
      programs in 2010.

   ii. List your program’s assessment tools. For each assessment tool,
        a. Identify what is considered a “successful” result.
        b. Indicate when the last time each assessment tool was administered.
        c. Provide the most recent result.
        d. For each result, identify what conclusions were drawn.
   iii. What changes to the program (if any) were made in response to the program assessment
         results and how have you assessed the effectiveness of those changes?
   iv. Provide copies of your assessment tools.
   v. Provide a schedule for the administration of program assessment tools for the next 5 years.

The primary assessment tool for the Broad Field Science major is student performance on the Praxis
II General Science Examination (see attached). The exam is given on-line, and all students seeking
broad field science licensure in Wisconsin must pass the exam. Our program goal is for all students
to pass the exam on their first attempt. In the 2 ½ years since our last AOC review (S2012 –
present), 12 broad field science majors took and passed the exam on their first attempt with an
average score of 171 (154 is passing). The broad field science curriculum is working.

Although not listed in the assessment plan, a second assessment is number of majors and graduates
in broad field science. The program’s primary mission is to turn out science teachers; the numbers
will tell how we’re doing. Figure 1 below shows the number of majors and the number of graduates
each year for the past 10 years. The program is holding steady after a down period several years
ago.

B. General Education Assessment
   i. List each UUCC-approved general education courses within the program/department.
   ii. Provide a chart indicating which general education learning outcomes each of these courses
       covers.

The Broad Field Science program owns no courses.
C. Progress – Describe program changes that were recommended in past assessment and program reviews (at both the institutional and accrediting body level) and describe what progress/changes have been made since those recommendations.

The last AOC review of the Broad Field Science program was in 2012, and there were no recommendations at that time.

In 2007 the last APC review identified 2 goals: improve the administrative structure of the Broad Field program and introduce a Broad Field Science minor. In 2012 the program set up a formal steering committee to administer the program within the Department of Engineering Physics. A program charter (see attached) was adopted at that time. DPI rejected our idea of a Broad Field Science minor as a path the certification in 10-21 general science. Therefore, the program implemented changes to the major requirements so students could more easily complete a double major in biology/chemistry and broad field science. Since the APC review in 2007 the program identified another need: a more accessible concentration in physics within the broad field science major. A new general education physics course has been developed to make this possible. It will be offered for the first time in Spring 2015.

Broad Field Science went through the Department of Public Instruction (DPI) review of the university’s education programs in 2010. Broad Field Science, including the concentrations in Biology, Chemistry, and Physics, was reapproved for licensure by DPI, but the concentration in Earth and Space Science was not approved. It appeared the failure was due to procedural errors in the report, not to insufficient content. We did not reapply for licensure because we haven’t had any students seek licensure in that concentration in many years. The concentration is still available for majors not seeking licensure.

Figure 1: Number of broad field science majors and number of broad field science graduates each academic year for the past 10 years.
Information Required by the Academic Standards Committee

6. Briefly describe how your program is engaged in reviewing its own internal academic standards. In particular:
   A. What does your program do to ensure that courses, major options, minor options, etc. are current and relevant? Give examples of two changes that were implemented over the past 5 years in response to these efforts.

   Broad Field Science serves the needs of students who want to become teachers. Thus, the primary source of feedback about the currency and relevancy of the program is the employability of our graduates. The most important source of information is requests from in-service teachers to add certifications through Broad Field Science. In the past 5 years, this feedback has informed us that adding BFS as a double-major to a biology education degree makes graduates more employable. Thus, we have acted to streamline this double-major. We have also received several requests from in-service teachers to add physics certification. In response to this, we are attempting to broaden the appeal of the physics concentration to encourage majors to consider physics certification as an option before graduating.

   B. How does your program monitor consistency in course content, course standards, and grading from semester to semester and instructor to instructor? In particular, explain what group or individual are tasked with this effort and outline the expected course of action that is to be followed if an inconsistency is discovered.

   Broad Field Science owns no courses. Our curriculum relies on courses in the Biology, Chemistry, Geoscience, and Engineering Physics Departments. The success of our majors on the Praxis General Science Exam informs us that the courses are properly preparing our graduates.

   C. Does your program offer any courses in multiple formats (such as traditional on campus, streaming video, winterim, fully or hybrid online, etc.)?

      No

   D. If your answer to (c) was yes, what are the two most important differences between the formats from the standpoint of the faculty? What are the two most important differences from the standpoint of the students? Explain what measures are taken to mitigate the differences.

   Once completed, please send Form B electronically to Lisa Merkes-Kress at merkesl@uwplatt.edu. Form B is due on or before October 15.