Dr. Ralph Oberly, Chair  
Physical and Applied Sciences  
COS  

Dear Ralph,

I have completed my evaluation of the MS in Physical and Applied Science’s assessment of student learning. This letter will provide general comments and suggestions for improvement. Although the scoring rubric I used to evaluate assessment reports is attached, I will not include numerical ratings in this letter. The reason for this is that the rubric is still relatively new and is continuing to be revised. At this time, I ask that you use it for formative purposes to help improve your assessment plan. We also would appreciate your comments concerning this rubric.

Your report contains useful information and, it is clear to me from reading your report that you have an excellent program! However, your report reads more like a mini-program review than like an annual assessment report. For one thing, you are using an outdated template for the report. The current template is available at [http://www.marshall.edu/assessment/assessment_forms.htm](http://www.marshall.edu/assessment/assessment_forms.htm) and should be used for future annual assessment reports. As you know, you will not submit an annual assessment report in December 2011 because you are submitted a five-year program review in November. So, your next annual assessment report will be due in December 2012.

Regarding the part of the assessment report I evaluated with the attached rubric, your program’s student learning outcomes are well stated and stress higher levels of learning, as is appropriate to graduate education and to your discipline. The assessment measures you report using, e.g. comprehensive exam, thesis, course assignments, etc., are appropriate, but vague. Benchmarks and reported results also should be more specific. Rather than simply saying that students must be able to answer questions on an exam or organize and write a report, I recommend that you specify the level of mastery that students should achieve. On the comprehensive exam, it would be helpful to analyze results in terms of specific “fundamental principles.” That way, your results would help you to identify which principles students had grasped relatively well and which they had not. For papers and reports, I recommend that you develop assessment rubrics that specify traits under each outcome. For example, one of your outcomes is that, “Students will communicate effectively, in the discourse of the discipline, both orally and in writing.” It would be helpful to develop written and oral communication rubrics. To do this, you first need to define the criteria (traits) that you want to see in a well written report. At the very least, writing effectiveness, mechanics, and organization are important. If each writing artifact is evaluated against these traits at specified levels (e.g. novice, developing, mastery) your benchmark would be for a specified percentage of students to score at or above a certain level. You can also calculate mean performance across students. The results will show you if students are relatively stronger in some areas of writing than in others. Then, improvement plans should be based on these results.
During the academic year 2011 – 2012, I plan to meet with all programs to assist with further development of assessment plans and look forward to meeting with you. I will be in touch at the end of the summer about scheduling. If you have questions or concerns, please let me know.

Sincerely,

Mary E. Reynolds

Mary E. Reynolds
Director of Academic Assessment

C: Dr. Charles Somerville, Dean, COS
Office of Assessment & Program Review

April 5, 2010

Dr. Nicola Orsini, Chair
Physics
COS

Dear Nico:

I have completed my evaluation of the MS in Physical and Applied Science’s assessment of student learning. This letter will provide my general comments and suggestions for improvement. Although the scoring rubric we used to evaluate assessment reports is attached, I will not include numerical ratings in this letter. The reason for this is that we used the attached rubric is still relatively new and, as you will see, it raises the bar for what is considered excellent assessment. However, I ask that you use it for formative purposes to help improve your assessment plan. We also would appreciate your comments concerning this rubric.

The learning outcomes that you’ve specified on page 5 of the report are excellent. However, they are not repeated in your chart. If possible, I would like to meet with you after Assessment Day to discuss ways to determine appropriate assessments for the outcomes you’ve written and to plan a workable timeline for assessment.

Please see the attached rubric. If you have questions or concerns, please let me know.

Sincerely,

Mary E. Reynolds

Mary E. Reynolds
Director of Academic Assessment

C: Dr. Charles Somerville, Dean, COS
April 5, 2009

Dr. Ralph Oberly, Chair
MS in Physical and Applied Science
COS

Dear Ralph:

The Graduate Council and I have completed our evaluation of the MS in Physical and Applied Science’s assessment of student learning. This letter will provide my general comments and suggestions for improvement. Although the scoring rubric we used to evaluate assessment reports is attached, I will not include numerical ratings in this letter. The reason for this is that we used the attached rubric for the first time this year and, as you will see, it has changed considerably from the ones used in previous years. It raises the bar for what is considered excellent assessment considerably and, since it was not shared with programs before this assessment cycle, I’m not comfortable using it to give programs a formal rating this year. However, I ask that you use it for formative purposes to help improve your assessment plan. We also would appreciate your comments concerning this new rubric.

From reading this report, it is obvious that you have an excellent program; one to which you have devoted much thought within the context of student and workforce needs. Additionally, you have been proactive in keeping the curriculum up to date. Your program’s student learning outcomes are well articulated and cover higher levels of learning. However, you need more finely tuned precision in assessing these learning outcomes. It is not enough to say that students complete projects in many courses and that they all perform in a satisfactory manner. You should specify exactly what the projects are and the exact levels at which students will be expected to perform to achieve the outcomes. We encourage you to develop analytic assessment rubrics for this purpose. Then, your benchmarks should set the standard at which you expect students to perform to show they have achieved the outcome. The benchmark might be set at 3 on a 4-point rubric, with 4 meaning “exceeds expectations,” and 3 meaning “meets expectations.” Results would be the actual levels achieved, which would inform plans for improvement. For example, your first student learning outcome is, “Apply fundamental principles of the discipline to solve problems.” You might evaluate this outcome using select essay exam questions from various specified courses, research projects or other papers from specified courses, and the student’s thesis. You could use a scoring rubric that the faculty devises that could be adapted to each assessment for this particular outcome. What are the elements you would want to assess to be sure students had fulfilled the outcome? Would they need to identify the problem in question, evaluate the potential of several “fundamental principles” to solve the problem, select the best fundamental principle to solve the problem, explain how to use this principle to solve the problem, etc? By evaluating student performance across these dimensions, you will be able to say, not just that everyone is doing fine, but that students perform relatively better in identifying a problem to be solved than in choosing the most appropriate principle to solve the problem (or vice versa).
Please see the attached rubric and letter to Deans, Chairs, and Faculty detailing general suggestions for an effective assessment program. If you have questions or concerns, please let me know.

Sincerely,

Mary E. Reynolds

Mary E. Reynolds
Director of Academic Assessment

C: Dr. Wayne Elmore, Interim Dean, COS
April 1, 2008

Dr. Ralph Oberly, Chair  
MS in Physical Sciences  
COS  

Dear Ralph,

The Graduate Council and I have completed our evaluation of the annual program assessment report for the MS in Physical Sciences. This letter will provide feedback in the following manner. First, I will comment generally on each section of your report. Second, I will rate the following areas of the report on a four point scale (0 – 3, with 3 being the highest rating): student learning outcomes, assessment measures, and the feedback loop. Although I considered feedback from committee members, I made the final decision on ratings for all reports submitted. Third, I will offer suggestions for your consideration as you plan your assessment for the 2008-2009 academic year. Fourth, I will include my evaluation using the Primary Traits Analysis rubric and will include reviewers’ comments for your information.

General Comments

The MS in Physical Sciences appears to be a challenging, yet practical, course of study that provides numerous tracks to fulfill the varied needs to enrolled students. Your program goals are well defined. Goals 2 – 6 pertain to student learning and could be easily written as measurable student learning outcomes. You also have listed these in your assessment chart. Some of the outcomes in your chart are written in measurable terms, while others are not. Let me suggest the following wording for your consideration:

Upon completion of the MS in Physical Sciences, students will be able to

1. Apply the fundamental principles of the discipline to solve problems.
2. Plan and carry out a scientific investigation.
3. Choose appropriate computer software packages for particular analyses and use them competently.
4. Communicate effectively, in the discourse of the discipline, both orally and in writing.
5. Critically evaluate data sources to frame research hypotheses and to arrive at solutions to problems.
Your report lists several appropriate direct assessment measures, e.g. regular course assignments, laboratory reports, comprehensive exams, theses, independent study reports, and content specialization tests for students applying for teaching certificates. You report also contains a satisfaction survey for graduates of the program, which can give you a rich source of indirect data.

Your report does not, however, contain specific benchmarks, results, or actions taken. To simply say that students should be able to successfully complete courses or communicate their thinking are much too subjective statements to be useful benchmarks. Also, it was not apparent to me that you have developed scoring rubrics for assessments like comprehensive exam questions, these, laboratory reports, and independent study projects. Developing detailed scoring rubrics with clearly defined criteria in each area of assessment can help you to objectify and quantify the evaluation process. For example, if independent study reports are evaluated on a scale of 4 - 1, with 4 meaning “outstanding,” 3 meaning “good,” and 2 meaning “satisfactory,” you might expect a mean score (across students) of 2.5 on each component of the rubric. Giving results for each component can help you to clearly identify your students strengths and weaknesses. Then, actions taken during the coming year should specifically address weaknesses.

Ratings for Student Learning Outcomes, Assessment Measures, and the Feedback Loop

Student Learning Outcomes = 3. This rating was given because your student learning outcomes are comprehensive, for the most part measurable, support Marshall’s educational goals, and span multiple learning domains. I would suggest some of the rewording mentioned above.

Assessment Measures = 3. This rating was given because your measures stress higher order thinking and allow learning to be gauged over time.

Feedback Loop = 0. This rating was given because, as far as I could tell appropriate benchmarks were not defined, meaningful results were not given, and curricular modification were not based on identified weaknesses in student learning.

Suggestions to Consider as you plan your assessment strategies for the 2008-2009 academic year

First, it is not necessary, or even desirable, to assess all student learning outcomes every year. I encourage you to do a more in-depth assessment of a portion of your student learning outcomes each year. So, you may choose to do an in-depth assessment of the first two outcomes during year 1. If this is done using several assessment measures with detailed rubrics, you will be able to collect detailed data regarding the outcomes. These data should allow you to identify specific strengths and weaknesses regarding student learning (and hence, your program). Changes to strengthen these areas of learning can be implemented the following year, while you assess two more outcomes. This will allow you to assess all outcomes on a three-four year rotation and will give you sufficient time to allow curricular modifications to have an effect before the next assessment.

I appreciate the work you are doing to make your assessment stronger. If I can be of additional help, please do not hesitate to contact me at 62987 or at reynoldm@marshall.edu.
Sincerely,

Mary E. Reynolds
Interim Director of Assessment

C: Dr. Andrew Rogerson, Dean, COS