Student Learning Summary Form AY2016-17 ***Due to your dean by the college deadline; due from the dean to the Assessment Office via Blackboard by Sept. 1***

Degree Program Name: ___Physics_____ **Contact Name(s) and Email(s) __**Valentina French; Valentina.French@indstate.edu_

Before you complete the form below, review your outcomes library and curriculum map to ensure that they are accurate and up to date. If not, you may submit a new version along with this summary. Templates are available on the assessment website.

Part One: Summary of Assessment Activities

a. What learning outcomes did you assess this year? **If this is a graduate program, identify the Graduate Student Learning Outcome* each outcome aligns with.**	**b. (1) What assignments or activities did you use to determine how well your students attained the outcome? (2) In what course or other required experience did the assessment occur?**	**c. What were your expectations for student performance?**	**d. What were the actual results?**	**e. (1) Who was responsible for collecting and analyzing the results? (2) How were they shared with the program's faculty?**
1. (Outcome #1) Students pursuing a baccalaureate degree in physics will exhibit a sound grasp of fundamental concepts in the discipline.	All physics majors will take the Major Field Test in Physics near the end of their senior year and the Assessment Committee will discuss the results.	Our students will score at the "Fair" level or better.	The Major Field Test in Physics was administered to all senior physics majors in December 2015 and 2016. Physics faculty met on April 19th, 2017 to discuss the results. Seven students took the test. The results show that 3 students performed at the "Fair" level or better and 4 students performed below the "Fair" level. The target achievement was not met.	Drs. French, West and Zhang teach the upper division physics courses and participated in this analysis. The results were presented to the physics faculty as a whole in April 2017.
2. (Outcome #2) Students pursuing a baccalaureate degree in physics will be able to employ problem solving skills together with scientific models and mathematical techniques to explain and predict behavior of physical systems.	All physics faculty members complete the "Problem Solving Skills Rubric" with the aid of graded exams and projects from the following courses: PHYS 215, 216, 310, 311, 341, 342, 420 and 497.	All of the categories in the rubric will be rated at least satisfactory. A satisfactory rating in a category means that at least 80% of the students are rated satisfactory or better in that category (an average score of 3 or better on a 5-point scale).	The faculty completed a copy of the rubric for each major who took at least one of the assessed physics courses in the 2015-2016 and/or 2016-2017 academic years. The faculty met on April 19th, 2017 to discuss the results. Using all scores, averages were calculated for each	Drs. French, West, and Zhang teach the upper-division physics courses and participated in this analysis. The results were presented to the physics faculty as a whole in April 2017.

			student, in each course, in every category of the rubric. Ten students were considered. The results show that over 90% of the student performances reviewed were rated as satisfactory or better in each category of the rubric. The target achievement has been met.	
3.				

* See https://www2.indstate.edu/graduate/forms/review.pdf.

If you would like to report on more than three outcomes, place the cursor in the last cell on the right and hit "tab" to add a new row.

Notes

a. Use your outcomes library as a reference.
b. Each outcome must be assessed by at least one direct measure (project, practica, exam, performance, etc.). If students are required to pass an examination to practice in the field, this exam must be included as one of the measures. At least one of the program's outcomes must use an indirect measure (exit interview, focus group, survey, etc.). Use your curriculum map to correlate outcomes to courses.
c. Identify the score or rating required to demonstrate proficiency (e.g., Students must attain a score of "3" to be deemed proficient; at least 80% of students in the program will attain this benchmark."
d. Note what the aggregate level of proficiency actually was and the number of students included in the cohort or sample (e.g., "85% of the 25 students whose portfolios were reviewed met the established benchmark").
e. This may be a specific individual, a position (e.g., assessment coordinator), or a group such as the department assessment committee. Minutes should reflect that results are shared with members of the department at least annually.

Part Two: Engagement and Improvement

In no more than one page, summarize 1) the discoveries assessment has enabled you to make about student learning (a. What specifically do students know and do well—and less well? b. What evidence can you provide that learning is improving?) 2) the changes you have made or will make in response to these discoveries and/or the coordinator's feedback; and 3) what your assessment plan will focus on in the coming year.

Please provide this report to your dean as a Word document. Do not include any attachments. Instead, provide links to important supporting materials (e.g., detailed—but not student-specific--assessment results; rubrics; minutes; etc.), or upload them to the college's assessment site in Blackboard.

Outcome #1: The target level of achievement was not met during the period covered by this review. Due to the small number of students involved in the review and because the target level of achievement was met during the two previous assessment reviews of this student learning outcome (2014-15 and 2012-13), the physics faculty did not consider any changes at this time, but recommended to continue to collect data and monitor the benchmarks. It is also noteworthy that the performance on the Major Field Test does not impact a student's grade in any course. Students receive some credit (10% of the overall grade in PHYS 405-Senior Seminar in Physics) for completing the exam, but there is no incentive for a student to necessarily perform well on the exam. This may account for the low scores of some of our graduates.

Outcome #2: The target level of achievement for "problem-solving skills" was met during this review. No change was considered.

In the forthcoming year, the physics faculty will assess Outcomes #3 and #4, on student learning of “laboratory procedures” in physics and on “oral and written communication skills,” respectively.

Student Learning Summary Report Rubric :: Office of Assessment & Accreditation :: Indiana State University

Degree Program: BS in Physics Date: 01.20.18

	Level 0 – Undeveloped	Level 1 – Developing	Level 2 – Mature	Level 3 – Exemplary
1. Student Learning Outcomes	☐ No outcomes were identified. ☐ No Curriculum Map was provided.	☐ Outcomes were identified. ☐ Some of the outcomes are specific, measurable, student-centered, program-level outcomes. ☐ A Curriculum Map was provided.	☐ Outcomes are specific, measurable, student-centered, program-level outcomes. ☑ Outcomes at least indirectly support Foundational Studies Learning Outcomes or the Graduate Learning Goals. ☐ The Curriculum Map identifies where/to what extent each outcome is addressed. ☐ At least one outcome was assessed in this cycle.	☑ Outcomes are important, specific, measurable, student-centered program-level outcomes that span multiple learning domains. ☐ Outcomes directly integrate with Foundational Studies Learning Outcomes or the Graduate Learning Goals. ☐ Outcomes reflect the most important results of program completion (as established by an accreditor or other professional organization). ☐ Learning outcomes are consistent across different modes of delivery (face-to-face and online.) ☐ Outcomes are regularly reviewed (and revised, if necessary) by the faculty and other stakeholders. ☑ The Curriculum Map identifies where/to what extent each outcome is addressed and offers evidence that students have sufficient opportunity to master the associated learning outcomes.

				☑ Two or more outcomes were assessed in this cycle.
2. Measures & Performance Goals	☐ No measures are provided. ☐ No goals for student performance are identified.	☐ Measures are provided, but some are vague and/or do not clearly assess the associated outcomes. ☐ Measures are primarily indirect. ☐ Performance goals are identified, but they are unclear or inappropriate. ☐ Some performance goals are based on course and/or assignment grades, but there is no evidence that grades are calibrated to the outcomes.	☑ At least one direct measure was provided for each outcome. ☑ Some information is provided to suggest that measures are appropriate to the outcomes being assessed. ☑ Clear and appropriate standards for performance are identified. ☐ Some performance goals are based on course and/or assignment grades, and general information is provided to demonstrate that grades are calibrated to the outcomes. ☐ Mechanisms used to assess student performance (rubrics, checklists, exam keys, etc.) were provided.	☐ Multiple measures were employed, and most are direct. ☐ Detailed information is provided to show that measures are appropriate to the outcomes being assessed. ☐ Measures assess some high impact practices (internships, capstone course projects, undergraduate research, etc.) ☐ If students are required to pass a certification or licensure exam to practice in the field, this was included as a measure. ☐ Some measures allow performance to be gauged over time, not just in a single course. ☐ If a measure is used to assess more than one outcome, a clear explanation is offered to substantiate that this is appropriate. ☐ Clear and appropriate standards for performance are identified and justified. ☐ Mechanisms used to assess student performance (rubrics, checklists, exam keys, etc.) were summarized as well as provided

				to demonstrate that the measure provides specific evidence of what students know/can do. ☐ If performance goals are based on course and/or assignment grades, specific evidence is provided to demonstrate that grades are calibrated to the outcomes.
3. Results	☐ No data are being collected. ☐ No information is provided about the data collection process. ☐ No results are provided. ☐ Students are meeting few of the performance standards set for them.	☐ Some data are being collected and analyzed. ☐ Some results are provided. ☐ Insufficient information is offered to demonstrate that data collection, analysis, and interpretation processes are valid. ☐ Students are achieving some of the performance standards expected of them.	☑ Data are being collected and analyzed. ☑ Results are provided. ☑ Some information is offered to demonstrate that data collection, analysis, and interpretation processes are valid and meaningful. ☑ Students generally are achieving the performance standards expected of them.	☐ Clear, specific, and complete details about data collection, analysis, and interpretation of results are provided to demonstrate the validity and usefulness of the assessment process. ☐ Students generally are achieving the performance standards expected of them and demonstrate continuous improvement on standards they have yet to achieve/achieve less well. ☐ If students are required to pass a certification or licensure exam to practice in the field, the pass rate meets the established benchmark.
4. Engagement & Improvement	☐ No one is assigned responsibility for assessing individual measures. ☐ Assessment primarily is the responsibility of the program chair.	☐ The same faculty member is responsible for collecting and analyzing most/all assessment results. ☐ It is not clear that results are shared with the faculty as a	☑ Multiple faculty members are engaged in collecting and analyzing results. ☑ Results regularly are shared with the faculty.	☐ All program faculty members are engaged in collecting and analyzing results. ☐ Faculty regularly and specifically reflect on students' recent achievement of

	☐ No improvements (planned or actual) are identified. ☐ No reflection is offered about previous results or plans.	whole on a regular basis. ☐ Plans for improvement are provided, but they are not specific and/or do not clearly connect to the results. ☐ Little reflection is offered about previous results or plans.	☑ The faculty regularly engages in meaningful discussions about the results of assessment. ☑ These discussions lead to the development of specific, relevant plans for improvement. ☐ Improvements in student learning have occurred as the result of assessment.	performance goals and implement plans to adjust activities, expectations, outcomes, etc. according to established timelines. ☐ Faculty and other important stakeholders reflect on the history and impact of previous plans, actions, and results, and participate in the development of recommendations for improvement. ☐ Continuous improvement in student learning occurs as the result of assessment. ☐ Outcomes and results are easily accessible to stakeholders on/from the program website. ☑ Assessment is integrated with teaching and learning.
Overall Rating	☐ **Level 0 – Undeveloped**	☐ **Level 1 - Developing**	☑ **Level 2 – Mature**	☐ **Level 3 – Exemplary**

Revised 02.01.17

BA/BS in Physics

This Physics program has a simple assessment plan that includes clear, measurable outcomes, direct measures (Major Field Test and exams/projects assessed by a rubric), clear standards, and regular review and discussion of student learning. This year, students did not meet standards set for the MFT, but since this was an anomaly, no changes are planned at this time. Does the rubric you use include the specific criteria by which students' exams and projects are assessed? If so, it should yield some detailed information about student learning that could be examined in Part Two and used to develop plans for improvement.

Thank you for sharing your Student Learning Summary Report!