Student Learning Summary Form AY2015-16

Due to your dean by June 1
Due from dean to assessment office by June 15

Degree Program Name: _Physics_____ **Contact Name and Email** _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.

Part One

a. What learning outcomes did you assess this year? **If this is a graduate program, indicate the Graduate Student Learning Outcome* each outcome aligns with.**	**b. (1) What method(s)s 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 expectations did you establish for achievement of the outcome?**	**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 #3) Students pursuing a baccalaureate degree in physics will carry out basic laboratory procedures demonstrating appropriate use of instrumentation, quantitative measurement, and data analysis.	All physics faculty members complete the "Laboratory Procedures Rubric" with the aid of graded laboratory reports from PHYS 215L, 216L, 315 and 316 and notes/observations made by faculty members concerning the students' laboratory work in these courses during the 2014-2015 and 2015-2016 academic years.	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 physics laboratory courses in the 2014-2015 and/or 2015-2016 academic years. The faculty met on April 15, 2016 to discuss the results. Using all scores, averages were calculated for each student, in each course, in every category of the rubric. Eleven 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.	Drs. French, West, and Zhang and Ms. Baltz-Knorr teach the upper-division physics laboratory courses and participated in this analysis. The results were presented to the physics faculty as a whole in April 2016.
2. (Outcome #4) Students pursuing a baccalaureate degree in physics will demonstrate professional (a) oral and (b) written	(a) All physics faculty members complete the "Oral Communication Rubric" based on direct observations of student presentations in	(a and b) All of the categories in the rubric will be rated at least satisfactory. A satisfactory rating in a category means that at least	(a) The faculty completed a copy of the rubric for each major who made an oral presentation as part of the requirements for physics	Drs. French, West, and Zhang and Ms. Baltz-Knorr teach the upper-division physics laboratory courses and participated in this analysis.

communication skills.	PHYS 215L, 216L, 315, 316, 405, and 499 and at professional meetings during the 2014-2105 and 2015-2016 academic years. (b) The physics faculty complete the "Written Communication Skills Rubric" based on student writing in laboratory reports, exams, and other assignments from upper-division courses during the 2014-2105 and 2015-2016 academic years.	80% of the students are rated satisfactory or better in that category (an average score of 3 or better on a 5-point scale).	courses and laboratories or at professional meetings during the 2014-2015 and 2015-2016 academic years. The faculty met on April 15, 2016 to discuss the results. Using all scores, averages were calculated for each student in each category of the rubric. Eleven students were considered. The results show that over 92% of the student presentations reviewed were rated as satisfactory or better in each category of the rubric. The target achievement has been met. (b) The faculty completed a copy of the rubric for each major with the aid of graded laboratory reports from PHYS 215L, 216L, 315, 316 as well as graded written assignments and exams from upper-division physics courses during the 2014-2015 and 2015-2016 academic years. The faculty met on April 15, 2016 to discuss the results. Using all scores, averages were calculated for each student in each category of the rubric. Eleven students were considered. The results show that over 90% of the student presentations reviewed were rated as satisfactory or better in each category of the rubric. The target achievement has been met.	The results were presented to the physics faculty as a whole in April 2016.

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 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

In no more than one page, summarize 1) the discoveries assessment has enabled you to make about your students' learning, the curriculum, departmental processes, and/or the assessment plan itself; 2) the changes and improvements you have made or will make in response to these discoveries and/or the coordinator's feedback on the previous summary; and 3) what your assessment plan will focus on in the coming year.

If you would like to reference any supporting materials (departmental meeting minutes, detailed assessment results, etc.), please provide the URL at which they can be found.

Outcome #3: Although the target level of achievement for "laboratory procedures" was met during this review, the faculty generally judged that student preparation for the 215L and 216L laboratory courses was less than desirable. The faculty decided to introduce pre-lab quizzes in these courses to aid preparation for the lab work. Because the target achievement was met in all categories assessed during this cycle, faculty will continue to collect data and monitor the benchmarks.

Outcome #4: The target level of achievement for "communication skills" was met during this review. No change was considered.

In the forthcoming year, the physics faculty will assess Outcomes #1 and #2, on student learning of "fundamental concepts" in physics and on "problem-solving skills," respectively.

Supporting information is available on request.

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

Degree Program: Date:

	Level 0 – Undeveloped	Level 1 – Developing	Level 2 – Mature	Level 3 – Exemplary
1. Student Learning Outcomes	☐ No outcomes are 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 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. ☐ Measures include course and/or assignment grades, but there is no evidence that grades are calibrated to the outcomes. ☐ Performance goals are identified, but they are unclear or inappropriate.	☒ 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. ☐ Measures include course and/or assignment grades, and general information is provided to indicate that grades are calibrated to the outcomes. ☒ Clear and appropriate standards for performance are identified. ☐ Mechanisms (rubrics, checklists, criterion-referenced exams, etc.) were provided.	☐ Multiple measures were provided, and a majority are direct. ☐ Detailed information is provided to show that measures are appropriate to the outcomes being assessed. ☐ Measures include course and/or assignment grades, and specific evidence is provided to demonstrate that grades are calibrated to the outcomes. ☐ Clear and appropriate standards for performance are identified and justified. ☐ If students are required to pass a certification or licensure exam to practice in the field, this was included as a measure. ☐ Measures assess some high impact practices (internships, capstone course projects, undergraduate research, etc.) ☐ Some measures allow performance to be gauged over time, not just in a single course. ☐ Mechanisms (rubrics, checklists, criterion-referenced exams, etc.) were provided that demonstrate that the measure provides clear evidence of what students know/can do.

				☐ If a measure is used to assess more than one outcome, a clear explanation is offered to substantiate how this is effective.
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. ☐ No improvements (planned or actual) are identified. ☐ No reflection is offered about previous results or	☐ 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 whole on a regular basis. ☐ Plans for improvement are provided, but they are not specific and/or do not clearly connect to the results.	☒ Multiple faculty members are engaged in collecting and analyzing results. ☒ Results regularly are shared with the faculty. ☒ The faculty regularly engages in meaningful discussions about the results of assessment. ☒ These discussions lead to the development of specific, relevant plans for improvement.	☐ All program faculty members are engaged in collecting and analyzing results. ☐ Faculty regularly and specifically reflect on students' recent achievement of performance standards and implement plans to adjust activities, performance goals, outcomes, etc. according to established timelines. ☐ Faculty and other important

	plans.	☐ Little reflection is offered about previous results or plans.	☐ Improvements in student learning have occurred as the result of assessment.	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**

COMMENTS
Strengths, Concerns, Recommendations for Improvement

1. **Learning Outcomes**
   The two outcomes listed in the report are specific and measurable and require students to engage multiple learning domains.

2. **Measures & Performance Goals**
   Two primary direct measures are used to assess these outcomes, lab reports and oral presentations, and the details provided make it clear that they are appropriate to their related outcomes. For both measures, I would appreciate knowing more about the rubrics used to assess student achievement. What general areas do they assess? In each, what must students know and do to earn a "satisfactory" rating? (And yes, please include the actual rubrics in the college's Blackboard assessment site.) Last, keep in mind that your plan will need to include an indirect assessment measure as well.

3. **Results**
   Students achieved both of the outcomes assessed in this cycle. The numerical results are detailed clearly, but I would like to know more about what the numbers mean in terms of what students know and can do (or don't know/can't do), since if your assessments pinpoint the specific areas in which students are less well prepared, they'll lead you to relevant solutions.

4. **Engagement & Improvement**
   Multiple faculty members are engaged in collecting and analyzing data about student learning, which they appear to discuss regularly. In Part Two, you note that even though students met outcome #3, you still plan to act on the discovery that they were not as well prepared for lab work as they might be by introducing pre-lab quizzes in the relevant courses—good for you! No recommendations were offered to improve outcome #4. Is there room for improvement here, too? In next year's report, be more specific about what assessment has led you to understand about your students' learning. Are you seeing changes in their performance (including improvement)? Overall, are they achieving the program's outcomes? Do they leave the program ready for graduate school or employment?

   You have a simple, solid plan for assessment. Thank you!