

**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:** MS in Computer Science **Contact Name and Email** Jeff Kinne, [jkinne@indstate.edu](mailto:jkinne@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**

<p>a. What learning outcomes did you assess this year?</p> <p>If this is a graduate program, indicate the <a href="#">Graduate Student Learning Outcome*</a> each outcome aligns with.</p>	<p>b. (1) What method(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?</p>	<p>c. What expectations did you establish for achievement of the outcome?</p>	<p>d. What were the actual results?</p>	<p>e. (1) Who was responsible for collecting and analyzing the results? (2) How were they shared with the program's faculty?</p>
<p><u>1 Reinforce Core CS Skills</u> <i>G4, G5</i></p>	<p>Exit Survey questions 6a-6o</p> <p>685/695/699 Evaluation questions 5a, 5b, 5c</p>	<p>Average response on Exit Survey at or above "Mostly Mastered"</p> <p>All students rated on Evaluation questions at or above "Some Mastery"</p>	<p><b>Exit Survey (10 surveys completed out of 26 who graduated)</b> - average for Basic Programming was between "Fully Mastered" and "Mostly Mastered". Average for all other questions was between "Mostly Mastered" and "Somewhat Mastered".</p> <p><b>685/695/699 Evaluation (7 evaluations out of 26 who graduated)</b> – all students were rated to have "Some Mastery", the average rating was close to "Full Mastery" for basic programming and close to "Some Mastery" for data structures and algorithms.</p>	<p>Program director Jeff Kinne collects Exit Survey data, instructors of CS 685, 695, 699 send Evaluation scores to program director. Program director emails results to program faculty.</p>
<p><u>2A Algorithms</u> <i>G4, G5</i></p>	<p>Exit Survey questions 6d, m, n</p>	<p>Average response on Exit Survey at or above "Mostly Mastered"</p>	<p>Exit Survey – average response between "Mostly Mastered" and "Somewhat Mastered".</p>	

<u>2B Large Software Projects</u> G4, G5	685/695/699 Evaluation question 5d	All students rated on Evaluation questions at or above “Some Mastery”	All students rated at or above “Some Mastery”, average rating closer to “Full Mastery”.	
<u>2C Independent Research</u> G3, G4, G5	685/695/699 Evaluation question 5e	All students rated on Evaluation questions at or above “Some Mastery”	All students rated at or above “Some Mastery”, average rating closer to “Some Mastery”.	
<u>3A Working in Groups</u> G1, G2	Exit Survey questions 6q	Average response on Exit Survey at or above “Somewhat Mastered”	Average response between “Somewhat Mastered” and “Mostly Mastered”.	
<u>3B Presentation Skills</u> G1	Exit Survey questions 6r	Average response on Exit Survey at or above “Some Mastered”	Average response between “Mostly Mastered” and “Fully Mastered”.	
	685/695/699 Evaluation question 5f	All students rated on Evaluation questions at or above “Some Mastery”	All students rated at or above “Some Mastery”, average rating closer to “Full Mastery”.	
<u>3C Writing Skills</u> G1	Exit Survey questions 6s	Average response on Exit Survey at or above “Some Mastered”	Average response of “Mostly Mastered”.	
	685/695/699 Evaluation question 5g	All students rated on Evaluation questions at or above “Some Mastery”	All students rated at or above “Some Mastery”, average rating halfway between “Some Mastery” and “Full Mastery”	

\* 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

- Use your outcomes library as a reference.
- 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.
- 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.”
- 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.*

The assessment plan has been in place for two years in its current form. The first year of assessment results confirmed our belief that students wanted more exposure to computer systems and applications. As a result the program was updated to include more exposure in these areas. New courses in the program were run during 2015-2016 as topics courses. The courses and program changes were approved to begin in the fall of 2016. We look forward to evaluating how the students do in the new program.

With regard to the assessment of the 2015-2016 graduates, each of the minimal benchmarks have been met. Note, though, that assessment data was not gathered for all graduates (6 of 26 were evaluated for their master's project, and 10 of 26 completed an exit survey). We will look for ways to collect data for a higher percentage of the graduates.

Students were also asked on the exit survey for what they thought the program did well, and what they would like more of in the program. As in previous years, many students wanted more programming experience and thought they received good training in theoretical problem solving. These are students who were not able to fully benefit from the program changes that will begin in full in 2016-2017. We will pay attention to this issue as the new program rolls out.

The CS faculty normally meet to discuss detailed assessment results in the fall semester. The results will be sent out and discussed some amount over email, so that everyone will be prepared to discuss in the fall. We will be looking at how the new program effects the results.

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

Degree Program: MS in Computer Science Date: 8.18.16

	<b>Level 0 – Undeveloped</b>	<b>Level 1 – Developing</b>	<b>Level 2 – Mature</b>	<b>Level 3 – Exemplary</b>
<b>1. Student Learning Outcomes</b>	<input checked="" type="checkbox"/> No outcomes are identified.  <input type="checkbox"/> No Curriculum Map was provided.	<input type="checkbox"/> Outcomes were identified.  <input type="checkbox"/> Some of the outcomes are specific, measurable, student-centered, program-level outcomes.  <input type="checkbox"/> A Curriculum Map was provided.	<input type="checkbox"/> Outcomes are specific, measurable, student-centered, program-level outcomes.  <input type="checkbox"/> Outcomes at least indirectly support Foundational Studies Learning Outcomes or the Graduate Learning Goals.  <input type="checkbox"/> The Curriculum Map identifies where/to what extent each outcome is addressed. <b>Topics, not outcomes</b>  <input type="checkbox"/> At least one outcome was assessed in this cycle.	<input type="checkbox"/> Outcomes are specific, measurable, student-centered program-level outcomes that span multiple learning domains.  <input checked="" type="checkbox"/> Outcomes directly integrate with Foundational Studies Learning Outcomes or the Graduate Learning Goals.  <input type="checkbox"/> Outcomes reflect the most important results of program completion (as established by an accreditor or other professional organization).  <input type="checkbox"/> Learning outcomes are consistent across different modes of delivery (face-to-face and online.)  <input type="checkbox"/> Outcomes are regularly reviewed (and revised, if necessary) by the faculty and other stakeholders.  <input type="checkbox"/> 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.  <input checked="" type="checkbox"/> Two or more outcomes were

				assessed in this cycle.
<b>2. Measures &amp; Performance Goals</b>	<input type="checkbox"/> No measures are provided.  <input type="checkbox"/> No goals for student performance are identified.	<input type="checkbox"/> Measures are provided, but some are vague and/or do not clearly assess the associated outcomes.  <input checked="" type="checkbox"/> Measures are primarily indirect.  <input type="checkbox"/> Measures include course and/or assignment grades, but there is no evidence that grades are calibrated to the outcomes.  <input type="checkbox"/> Performance goals are identified, but they are unclear or inappropriate.	<input type="checkbox"/> At least one direct measure was provided for each outcome.  <input checked="" type="checkbox"/> Some information is provided to suggest that measures are appropriate to the outcomes being assessed.  <input type="checkbox"/> Measures include course and/or assignment grades, and general information is provided to indicate that grades are calibrated to the outcomes.  <input checked="" type="checkbox"/> Clear and appropriate standards for performance are identified.  <input type="checkbox"/> Mechanisms (rubrics, checklists, criterion-referenced exams, etc.) were provided.	<input type="checkbox"/> Multiple measures were provided, and a majority are direct.  <input type="checkbox"/> Detailed information is provided to show that measures are appropriate to the outcomes being assessed.  <input type="checkbox"/> Measures include course and/or assignment grades, and specific evidence is provided to demonstrate that grades are calibrated to the outcomes.  <input type="checkbox"/> Clear and appropriate standards for performance are identified and justified.  <input type="checkbox"/> If students are required to pass a certification or licensure exam to practice in the field, this was included as a measure.  <input type="checkbox"/> Measures assess some <a href="#">high impact practices</a> (internships, capstone course projects, undergraduate research, etc.)  <input type="checkbox"/> Some measures allow performance to be gauged over time, not just in a single course.  <input type="checkbox"/> Mechanisms (rubrics, checklists, criterion-referenced exams, etc.) were provided that demonstrate that the measure provides clear evidence of what students know/can do.

				<input type="checkbox"/> If a measure is used to assess more than one outcome, a clear explanation is offered to substantiate how this is effective.
<b>3. Results</b>	<input type="checkbox"/> No data are being collected.  <input type="checkbox"/> No information is provided about the data collection process.  <input type="checkbox"/> No results are provided.  <input type="checkbox"/> Students are meeting few of the performance standards set for them.	<input type="checkbox"/> Some data are being collected and analyzed.  <input type="checkbox"/> Some results are provided.  <input checked="" type="checkbox"/> Insufficient information is offered to demonstrate that data collection, analysis, and interpretation processes are valid.  <input type="checkbox"/> Students are achieving some of the performance standards expected of them.	<input checked="" type="checkbox"/> Data are being collected and analyzed.  <input checked="" type="checkbox"/> Results are provided.  <input type="checkbox"/> Some information is offered to demonstrate that data collection, analysis, and interpretation processes are valid and meaningful.  <input checked="" type="checkbox"/> Students generally are achieving the performance standards expected of them.	<input type="checkbox"/> 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.  <input type="checkbox"/> Students generally are achieving the performance standards expected of them and demonstrate continuous improvement on standards they have yet to achieve/achieve less well.  <input type="checkbox"/> If students are required to pass a certification or licensure exam to practice in the field, the pass rate meets the established benchmark.
<b>4. Engagement &amp; Improvement</b>	<input type="checkbox"/> No one is assigned responsibility for assessing individual measures.  <input type="checkbox"/> Assessment primarily is the responsibility of the program chair.  <input type="checkbox"/> No improvements (planned or actual) are identified.  <input type="checkbox"/> No reflection is offered about previous results or	<input checked="" type="checkbox"/> The same faculty member is responsible for collecting and analyzing most/all assessment results.  <input type="checkbox"/> It is not clear that results are shared with the faculty as a whole on a regular basis.  <input type="checkbox"/> Plans for improvement are provided, but they are not specific and/or do not clearly connect to the results.	<input type="checkbox"/> Multiple faculty members are engaged in collecting and analyzing results.  <input checked="" type="checkbox"/> Results regularly are shared with the faculty. <i>Will be?</i>  <input checked="" type="checkbox"/> The faculty regularly engages in meaningful discussions about the results of assessment.  <input checked="" type="checkbox"/> These discussions lead to the development of specific, relevant plans for improvement.	<input type="checkbox"/> All program faculty members are engaged in collecting and analyzing results.  <input type="checkbox"/> 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.  <input type="checkbox"/> Faculty and other important

	plans.	<input type="checkbox"/> Little reflection is offered about previous results or plans.	<input type="checkbox"/> Improvements in student learning have occurred as the result of assessment.	<p>stakeholders reflect on the history and impact of previous plans, actions, and results, and participate in the development of recommendations for improvement.</p> <p><input type="checkbox"/> Continuous improvement in student learning occurs as the result of assessment.</p> <p><input type="checkbox"/> Outcomes and results are easily accessible to stakeholders on/from the program website.</p> <p><input type="checkbox"/> Assessment is integrated with teaching and learning.</p>
<b>Overall Rating</b>	<input type="checkbox"/> <b>Level 0 – Undeveloped</b>	<input checked="" type="checkbox"/> <b>Level 1 - Developing</b>	<input type="checkbox"/> <b>Level 2 – Mature</b>	<input type="checkbox"/> <b>Level 3 – Exemplary</b>

## COMMENTS

### Strengths, Concerns, Recommendations for Improvement

#### 1. Learning Outcomes

Again, what's listed in the report are learning topics, not learning outcomes. You also need to revise those included in the Outcomes Library so that they focus on what students are expected to know and do (and less on what they can expect from the program). The first one, for example—"Students are exposed to a wider variety of algorithm techniques than in the undergraduate program, including a more detailed look at linear programming, randomized algorithms, and the computational complexity of intractable problems. Students gain experience programming a wider variety of algorithms, and should be proficient at analyzing new problems in light of the techniques they have learned"—could be shortened to something like "Students will apply advanced algorithmic concepts to solve new problems."

#### 2. Measures & Performance Goals

The program uses two key methods to assess students' achievement of the program's outcomes, but both are indirect measures. Nothing in the report indicates that direct measures are used to ascertain how well students are mastering the knowledge and skills expected of them.

#### 3. Results

Results for both the exit survey and the evaluation questions are positive. As with the undergraduate program, however, relatively few students participate in the assessments. At this point, the program does not appear to have any direct evidence that students are meeting learning goals.

#### 4. Engagement & Improvement

Only one person is responsible for collecting and analyzing assessment results, but these are shared and discussed (or will be) with the larger faculty. The previous year's assessment activities led the program revise courses to emphasize computer systems and applications; no plans for improvement were identified this year, though the report notes the need to increase the number of students who participate in assessment activities. In next year's report, I would like to see more specific evidence that students are learning and of what they are learning (or not learning). Is learning improving? Why or why not? Are graduates prepared for the future beyond ISU?

Thanks!