I. Program Information

<table>
<thead>
<tr>
<th>Program Name</th>
<th>Name of Department Chair or Program Director</th>
<th>Annual Report for Academic Year</th>
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<tbody>
<tr>
<td>Computer Science</td>
<td>Shieu-Hong Lin, PhD</td>
<td>2013-2014</td>
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II. PLO Assessment Activity

List the Program Learning Outcome Assessed this Year

Program learning outcome#5: Demonstrate an understanding of perspectives regarding the integration of faith and learning in computer science that encourage students to develop their professional skills to impact the world for Christ.

Describe the student evidence collected to evaluate the outcome (e.g. the final research paper from BBST 465)

Course: CSCI 105 Introduction to Computer Science.

Brief Assignment Description:
Faith and learning reflection essay #1 and essay #2

<table>
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<tr>
<th>Indicate the Number of Assignments Collected:</th>
<th>Indicate the Number of Collected Assignments Evaluated:</th>
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<tbody>
<tr>
<td>39 for reflection assignment #1</td>
<td>39 for reflection assignment #1</td>
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<tr>
<td>33 for reflection assignment #2</td>
<td>33 for reflection assignment #2</td>
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If only some assignments were evaluated, please explain why, and the selection process

Evaluation Process (Please explain how the student evidence was evaluated. Please attach rubrics or other evaluation materials used)
I have attached rubric(s) used for evaluation __X__Yes ___No

Individual(s) who evaluated the evidence: Dr. Shieu-Hong Lin (instructor of the course)

How the evidence was evaluated:
There were two assignments on faith and learning and the students needed to submit essay#1 in Week 1 and then essay#2 in Week 14 as they gained more exposure to programming and had the opportunities to reflect on issues of faith and learning in computer science. Dr. Lin graded the essays according to the requirements of the faith and learning assignments and the extent of coverage shown in the submitted work. See the requirements and the rubrics in the attachment.

Summary of Results (Please include a description, using percentages and mean scores, of the major findings from the assessment activity. Data or charts may be attached)

The students can receive up to 6 points in each assignment. There were 45 active students enrolled in the CSCI 105 (2 sections). For the first assignment, 39 students finished the reflection essay, 37 out of the 39 students received at least 5 points, and the mean score was 5.9. In other words, more than 82% of the entire class did very well in the assignment. For the second assignment, 33 students finished the reflection essay, 31 out of the 33 students received at least 5 points, and the mean score was 5.9. In other words, close to 73% of the entire class did very well in the second assignment.
Methods Used for Sharing Assessment Information

A faculty team met to discuss these results on __________ 04/24/2014, 04/30/2014 ___________. Briefly describe the number of team members involved and the process/method of discussion. (date)

Both CS faculty, Dr. William McCarty and Dr. Shieu-Hong Lin met and discussed the learning objective, the assignments, the rubrics, the work collected, and the analysis of the data to reach a conclusion regarding the assessment. The team over the results of the faith and learning assignments of CSCI105 Introduction to Computer Science. The student essays submitted have been archived.

Note: this is an essential part of the process and must be completed before moving forward with the remainder of the report.

Conclusions

What did the data tell your faculty team about students’ attainment of the learning outcome?

About three quarters of the class (82% and 73% respectively for the two assignments) did very well in the assignments, showing that (i) they had gone through a process of reflection on faith and learning to establish perspectives of faith and learning in computer science and (ii) they were able to describe their perspectives clearly in the essays. About 94% of those students who finished the assignments (37 out of 39 for assignment #1 and 31 out of 33 assignment #12) can fluently describe the connection between faith and learning in computer science.

Explain any strength or weakness suggested about the curriculum:

Strength: Vast majority (about 94%) of those students who finished the assignments accomplished the learning objective and established perspectives of the connection between faith and learning in computer science.

Identifying Changes to Result From Faculty Team’s Conclusions

The evidence suggested that we need to:

☐ Develop a Rubric    X Revise Existing Rubric    ☐ Revise the Assignment    ☐ Implement a new pedagogy    ☐ Implement new technology

☐ Provide models to students    ☐ Identify courses earlier in program where students could further practice the skill    ☐ Revise Curriculum Map

☐ Revise Course sequencing    ☐ Other – Please Specify:

Please describe the changes and/or improvement planned as a result of your analysis.
In the future, we would like to add more specifics into the requirements / rubrics of the assignments and ask the students to reflect on what they would like to accomplish (or would like to avoid) in the future in their career to impact the society for Christ based on your perspectives above. We also want to devise incentives (such as a heavier weight on the faith and learning assignments) to ensure an even higher percentage of students will engage in the faith-and-learning assignments and benefit from it.

No changes (while this would be unlikely, in rare cases where multiple cycles of assessment have already occurred, this might occur)
Please Explain:

<table>
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<tr>
<th>Implementing the Proposed Change</th>
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<tbody>
<tr>
<td>Describe the change that will be implemented:</td>
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   We would like to add more specifics into the requirements / rubrics of the assignments and ask the students to reflect on what they would like to accomplish (or would like to avoid) in the future in their career to impact the society for Christ based on your perspectives above. We also want to devise incentives (such as a heavier weight on the faith and learning assignments) to ensure an even higher percentage of students will engage in the faith-and-learning assignments and benefit from it.

When will the change be implemented?

   **Fall 2014.**

How will the change be implemented?

   The weight of the reflection essays (5% of the total) explicitly will be explicitly stated in the syllabus and the revised requirements/rubrics will be presented to the students in the class.
III. PLO Assessment Plan for Next Academic Year (2014-2015)

All of the items in Section III are about the assessment activity the department/program plans to complete during the next academic year.

**List the Program Learning Outcome(s) to be assessed**

Program learning outcome #2: Demonstrate an understanding of the theoretical and operational underpinnings of modern computing infrastructure that enables effective utilization of the whole spectrum of the infrastructure, including elements in programming environments, operating systems, and computer networks.

**Describe the student evidence to be collected for assessment**

We plan to collect student work on major projects in CSCI 430 Computer Communications and/or CSCI 220 Computer Organization and Assembly Language Programming. Since both courses are offered in the spring semester, we may eventually have to choose one of the two courses for the assessment given constraints on time and faculty resource.

**Term evidence will be collected:**  
(Note: experience indicates it is often best to assess in fall, and complete the analysis in spring)  
☐ Fall 2014  X Spring 2015  (if student evidence is collected in Spring 2015, the analysis may need to be completed in Fall 2015.)

IV. Follow Up on PLO Assessment and Programmatic Changes from Previous Year (2012-13)

**List the Program Learning Outcome Assessed in 2012-13**

PLO#3: Demonstrate the ability to design and develop software using mainstream programming languages and fine software-engineering practices in order to implement correct, efficient, and well-structured programs.

**Describe the student evidence that was collected for assessment**

Final programming project on 3-D interactive virtual worlds in CSCI 440 Topics in Computer Science: Computer Graphics

**What curricular change was implemented?**  |  **Was new data collected after this change?**  
--- | ---  
X Yes  |  X No

The course CSCI 440 Topics in Computer Science: Computer Graphics will not be offered until spring 2015 and we will continue to refine the rubrics of the final programming project.
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<tr>
<th>Has there been any observable impact on teaching or learning? If so, describe.</th>
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<tr>
<td>Students have been very positive about the final programming project on 3-D interactive virtual worlds in CSCI 440 Topics in Computer Science: Computer Graphics. They can see the visual impact as the results of what they have learned and developed throughout the class.</td>
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<table>
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<tr>
<th>If no data was collected, when will new data be collected and evaluated?</th>
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<tr>
<td>The course CSCI 440 Topics in Computer Science: Computer Graphics will be offered in spring 2015 and we will collect new data at that time.</td>
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