**SAMPLE**

**2020-2021 Student Learning Outcomes Assessment Plan and Report**

Document *Student Learning Outcomes*, *Assessment Plans* and Assessment Data for each Undergraduate and Graduate Degree program, Certificate program, Minor, and Distance Education Program (offered online only).

**College: College of Computing**

**Department: Computer Science**

**Degree Program: Computer Science – Bachelor of Science**

**Program’s Gal or Mission Statement:**

The mission of the Computer Science program is to prepare students to be research and development leaders in computer science and computer technology. To this end, the program is a catalyst and a resource for shaping the future of the broad discipline of computer science.  The faculty embraces the mutual interdependence of research and teaching to achieve excellence in both. As part of its mission the program brings the latest research findings into courses and actively involves students in research endeavors of the faculty. The program also provides leadership in the application of high technology to improve the educational experience.

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| **Reflection on the 2019-2020** ***Action Plan***1. What *Action Plan* improvements were suggested for 2020-2021 based on last year’s findings?2. Were all of the *Action Plan* improvements implemented? If not, please explain.3. How and to what extent did the *Action Plan* improvements impact student learning? |
| 1. SLO-1: More lecture information and more labs on arrays; design more algorithms in lab; more TA instruction in the lab classes; work more exercises in lecture; add more lab exercises on testing and debugging, and add more emphasis on documentation.

SLO-2: More clearly articulate requirements and expectations to students on project assignments, add small programming projects and tutorials to earlier part of course so students become more comfortable with programming, and spend more time in class lectures discussing programming aspects of projects.SLO-3: Provide students with additional course material and individual exercises on problem solving and design.SLO-4: More clearly articulate requirements and expectations to students. Spend more time with each project team to facilitate the development of teamwork skills.SLO-6 & 7: Additional emphasis will be placed on citation scheme. Felt overcrowding in classes affected student learning overcomes. An additional section will be added to meet demand.1. All changes were implemented.
2. SLO-1: Insignificant change – 72% to 73%.

SLO-2: Strong improvement – 56% to 89%.SLO-3: Significant improvement – 71% to 100%, but n is small (=5).SLO-4: Good improvement – 71% to 90%.SLO-6 & 7: Good improvement – mid-70’s% to 95%.  |

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| **Student Learning Outcome 1**(knowledge, skill or ability to be assessed) |
| Students will demonstrate competence in programming skills. |

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| **Changes to the *Assessment Plan***If any changes were made to the *Assessment Plan* (which includes the *Student Learning Outcome*, *Measure*, *Methodology* and/or *Target*) for this *Student Learning Outcome* since your last report was submitted, briefly summarize the changes made and the rationale for the changes. |
| Methodology: Undergraduate assessment coordination responsibility was shifted from the Associate Chair to the Assistant Chair due to a realignment of administrative duties within the Computer Science Department. The Assistant Chair now gathers the raw data from the instructor(s) and submits all data in a summary report to the Undergraduate Committee for their analysis and input. These procedural changes were implemented to streamline and improve the efficiency of the reporting process. |

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| **Identify and Describe the *Measure***1. Identify the *Measure*, e.g., assignment, exam, project, paper, etc.2. Identify the *Evaluation Tool*, e.g., rubric, itemized analysis, etc., that will be used to gauge the acquisition of this *Student Learning Outcome*, and explain how it assesses the desired knowledge, skill or ability.3. Provide a copy of both, the *Measure* and the *Evaluation Tool* to be submitted electronically to the designated Box folder. |
| A substantial programming project in **ITCS 1213 Introduction to Computer Science II**, which requires the student to demonstrate the ability to design and implement a software solution (program) using programming skills. The students are assessed on their thorough understanding of requirements; use of appropriate data structures and algorithms; solution design and modularization; user interface considerations; testing for correctness; and documentation. [Project Link](file:///C%3A%5CUsers%5Cchightower%5CDesktop%5CAssessment%20UNCC%5CITCS_1213_Project_CarpetCalculator.doc) [Scoring Rubric Link](file:///C%3A%5CUsers%5Cchightower%5CDesktop%5CAssessment%20UNCC%5CRubric%20for%20ITCS%201213%20Programming%20Project.docx)  |

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| **Identify and Describe the *Methodology***1. List the course(s) in which the data will be collected.2. Identify the person(s) responsible for the data collection.3. Describe how the data will be collected.4. Describe how the department will use and disseminate the *Findings* to program faculty.5. Describe how the program faculty will analyze the *Findings* to develop an *Action Plan*. |
| This outcome goal will be measured every Spring semester. The instructors of ITCS 1213 will assign the project and grade a student’s programming skills using a programming skill [scoring rubrics](file:///C%3A%5CUsers%5Cchightower%5CDesktop%5CAssessment%20UNCC%5CRubric%20for%20ITCS%201213%20Programming%20Project.docx) with a scale of 1-5. Each instructor will fill out a [*CS SLO Assessment Form*](file:///C%3A%5CUsers%5Cchightower%5CDesktop%5CAssessment%20UNCC%5CCS%20SLO%20Assessment%20Internal%20Form_CR.docx) reporting the performance statistics of the students and submit it to the Assistant Chair. The Assistant Chair will provide additional analysis and comments as needed and will forward all results and suggestions to the Departmental Undergraduate Committee for discussion and analysis. The Committee will evaluate results, identify areas for improvement, and suggest changes to achieve minimum performance targets by submitting a report to the Department Chair, the Assistant Chair, and the College’s Associate Dean for Administration, copying each affected instructor. |

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| **Establish the *Target***Identify the percentage of students and the expected *Level of Proficiency* for the students being assessed in this *Student Learning Outcome*. Example: 80% of the students being assessed will achieve a level of proficiency of “acceptable” or higher on the Oral Presentation Scoring Rubric.  |
| 70% of students will achieve “Acceptable” or higher level (average score 3.0~5.0 on the rubric elements) in the programming skills demonstrated in ITCS 1213 programming project. |

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| **Report the Assessment *Findings* and *Analysis* for 2020-2021**1. Summarize the percentage of students and the *Level of Proficiency* achieved in this *Student Learning Outcome* for 2020-2021.2. Describe the program faculty’s *Analysis* of the *Findings*. |
| Old assessment data is not comparable with new assessment data due to the implementation (Fall 2010) of a completely redesigned assessment protocol with new goals, targets and rubrics.**Fall 2010:** 74.4% of students achieved “Acceptable” or higher level (average score 3.0~5.0 on the rubric elements) in the programming skills demonstrated in ITCS 1213 programming project.**Spring 2011:** 72.5% of students achieved “Acceptable” or higher level (average score 3.0~5.0 on the rubric elements) in the programming skills demonstrated in ITCS 1213 programming project.**Fall 2011:** 73% of students achieved “Acceptable” or higher level (average score 3.0~5.0 on the rubric elements) in the programming skills demonstrated in ITCS 1213 programming project. |
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| ***Action Plan* for 2021-2022**Based upon the assessment data, *Findings* and *Analysis* from this year’s annual report, what changes will the program implement during the next academic year to improve performance on this *Student Learning Outcome*? |
| Instructor will spend more time on program design examples in lecture section. Students will then code those examples in the lab section. |

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| **Student Learning Outcome 2**(knowledge, skill or ability to be assessed) |
| Students will demonstrate fundamental knowledge of data structures and algorithms. |

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| **Changes to the *Assessment Plan***If any changes were made to the *Assessment Plan* (which includes the *Student Learning Outcome*, *Measure*, *Methodology* and/or *Target*) for this *Student Learning Outcome* since your last report was submitted, briefly summarize the changes made and the rationale for the changes. |
| Methodology: Undergraduate assessment coordination responsibility was shifted from the Associate Chair to the Assistant Chair due to a realignment of administrative duties within the Computer Science Department. The Assistant Chair now gathers the raw data from the instructor(s) and submits all data in a summary report to the Undergraduate Committee for their analysis and input. These procedural changes were implemented to streamline and improve the efficiency of the reporting process. |

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| **Identify and Describe the *Measure***1. Identify the *Measure*, e.g., assignment, exam, project, paper, etc.2. Identify the *Evaluation Tool*, e.g., rubric, itemized analysis, etc., that will be used to gauge the acquisition of this *Student Learning Outcome*, and explain how it assesses the desired knowledge, skill or ability.3. Provide a copy of both, the *Measure* and the *Evaluation Tool* to be submitted electronically to the designated Box folder. |
| **ITCS 2215 Design and Analysis of Algorithms** project, which requires the student to demonstrate basic knowledge of data structures and algorithms in designing, implementing and testing a software solution to a non-trivial problem. The problem will require the selection of appropriate data structures and alternative algorithms based on an understanding of the tradeoffs between resources and efficiency. The students are assessed on their ability to design an algorithm to solve a problem that is correct and efficient; provide thorough documentation; analyze competing algorithms in terms of time and space complexities; select appropriate ADTs; and design an adequate testing plan to validate correctness. [Project Link](file:///C%3A%5CUsers%5Cchightower%5CDesktop%5CAssessment%20UNCC%5C2215_Assignment_Word_Find_2.docx) [Scoring Rubric Link](file:///C%3A%5CUsers%5Cchightower%5CDesktop%5CAssessment%20UNCC%5CRubric%20for%20ITCS%202215%20course%20project%20on%20data%20structures%20and%20algorithms.docx)  |

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| **Identify and Describe the *Methodology***1. List the course(s) in which the data will be collected.2. Identify the person(s) responsible for the data collection.3. Describe how the data will be collected.4. Describe how the department will use and disseminate the *Findings* to program faculty.5. Describe how the program faculty will analyze the *Findings* to develop an *Action Plan*. |
| This outcome goal will be measured every Spring semester. The instructors of ITCS 2215 will assign the project and grade it using to a [scoring rubric](file:///C%3A%5CUsers%5Cchightower%5CDesktop%5CAssessment%20UNCC%5CRubric%20for%20ITCS%202215%20course%20project%20on%20data%20structures%20and%20algorithms.docx) with a scale of 1-5. Each instructor will fill out a [*CS SLO Assessment Form*](file:///C%3A%5CUsers%5Cchightower%5CDesktop%5CAssessment%20UNCC%5CCS%20SLO%20Assessment%20Internal%20Form_CR.docx)reporting the performance statistics of the students and submit it to the Assistant Chair. The Assistant Chair will provide additional analysis and comments as needed and will forward all results and suggestions to the Departmental Undergraduate Committee for discussion and analysis. The Committee will evaluate results, identify areas for improvement, and suggest changes to achieve minimum performance targets by submitting a report to the Department Chair, the Assistant Chair, and the College’s Associate Dean for Administration, copying each affected instructor.  |

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| **Establish the *Target***Identify the percentage of students and the expected *Level of Proficiency* for the students being assessed in this *Student Learning Outcome*. Example: 80% of the students being assessed will achieve a level of proficiency of “acceptable” or higher on the Oral Presentation Scoring Rubric.  |
| 70% of students will achieve “Acceptable” or higher level (average score 3.0~5.0 on the rubric elements) in the ITCS 2215 final project on data structure and algorithms. |

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| **Report the Assessment *Findings* and *Analysis* for 2020-2021**1. Summarize the percentage of students and the *Level of Proficiency* achieved in this *Student Learning Outcome* for 2020-2021.2. Describe the program faculty’s *Analysis* of the *Findings*. |
| Old assessment data is not comparable with new assessment data due to the implementation (Fall 2010) of a completely redesigned assessment protocol with new goals, targets and rubrics.**Fall 2010:** 40.7% of students achieved “Acceptable” or higher level (average score 3.0~5.0 on the rubric elements) in the ITCS 2215 final project on data structure and algorithms.**Fall 2011:** 89% of students achieved “Acceptable” or higher level (average score 3.0~5.0 on the rubric elements) in the ITCS 2215 final project on data structure and algorithms.**Spring 2011:** 56.1% of students achieved “Acceptable” or higher level (average score 3.0~5.0 on the rubric elements) in the ITCS 2215 final project on data structure and algorithms. |
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| **Action Plan for 2021-22:** Based upon the assessment data included in this annual report, what changes/improvements will the program implement during the next academic year to improve performance on this student learning outcome? |
| None required.  |

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| **Student Learning Outcome 3**(knowledge, skill or ability to be assessed) |
| Students will demonstrate an ability to analyze a problem, identify and define the computing requirements appropriate to its solution, and develop an efficient software solution for the problem. |

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| **Changes to the *Assessment Plan***If any changes were made to the *Assessment Plan* (which includes the *Student Learning Outcome*, *Measure*, *Methodology* and/or *Target*) for this *Student Learning Outcome* since your last report was submitted, briefly summarize the changes made and the rationale for the changes. |
| Methodology: Undergraduate assessment coordination responsibility was shifted from the Associate Chair to the Assistant Chair due to a realignment of administrative duties within the Computer Science Department. The Assistant Chair now gathers the raw data from the instructor(s) and submits all data in a summary report to the Undergraduate Committee for their analysis and input. These procedural changes were implemented to streamline and improve the efficiency of the reporting process. |

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| **Identify and Describe the *Measure***1. Identify the *Measure*, e.g., assignment, exam, project, paper, etc.2. Identify the *Evaluation Tool*, e.g., rubric, itemized analysis, etc., that will be used to gauge the acquisition of this *Student Learning Outcome*, and explain how it assesses the desired knowledge, skill or ability.3. Provide a copy of both, the *Measure* and the *Evaluation Tool* to be submitted electronically to the designated Box folder. |
| Capstone project/research - all CS BS students are required to complete a capstone project/research, which includes options of ITCS 4990 Undergraduate Research or ITCS 4155 Software Development Projects or ITCS 4232 Game Design & Development Studio or ITCS 4650/4651 Senior Project or ITCS 4991 Undergraduate Thesis. The students are assessed on their ability to design a complete solution from client requirements all the way through testing and delivery – including thorough problem analysis, identification of computing requirements, and development of an effective software solution. [Capstone Project Link](file:///C%3A%5CUsers%5Cchightower%5CDesktop%5CAssessment%20UNCC%5CITCS%204155%20Capstone%20Project_2.docx) [Projects List Link](file:///C%3A%5CUsers%5Cchightower%5CDesktop%5CAssessment%20UNCC%5CLink%20to%20Senior%20Projects.docx) [Scoring Rubric Link](file:///C%3A%5CUsers%5Cchightower%5CDesktop%5CAssessment%20UNCC%5CRubric%20for%20Capstone%20Project.docx)  |

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| **Identify and Describe the *Methodology***1. List the course(s) in which the data will be collected.2. Identify the person(s) responsible for the data collection.3. Describe how the data will be collected.4. Describe how the department will use and disseminate the *Findings* to program faculty.5. Describe how the program faculty will analyze the *Findings* to develop an *Action Plan*. |
| Each Spring, this SLO goal will be measured by all the instructors and advisors involved in capstone research/project using a [scoring rubric](file:///C%3A%5CUsers%5Cchightower%5CDesktop%5CAssessment%20UNCC%5CRubric%20for%20Capstone%20Project.docx) with a scale of 1-5. Each instructor will fill out a [*CS SLO Assessment Form*](file:///C%3A%5CUsers%5Cchightower%5CDesktop%5CAssessment%20UNCC%5CCS%20SLO%20Assessment%20Internal%20Form_CR.docx)reporting the performance statistics of the students and submit it to the Assistant Chair. The Assistant Chair will provide additional analysis and comments as needed and will forward all results and suggestions to the Departmental Undergraduate Committee for discussion and analysis. The Committee will evaluate results, identify areas for improvement, and suggest changes to achieve minimum performance targets by submitting a report to the Department Chair, the Assistant Chair, and the College’s Associate Dean for Administration, copying each affected instructor.  |

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| **Establish the *Target***Identify the percentage of students and the expected *Level of Proficiency* for the students being assessed in this *Student Learning Outcome*. Example: 80% of the students being assessed will achieve a level of proficiency of “acceptable” or higher on the Oral Presentation Scoring Rubric.  |
| 70% of students will achieve “Acceptable” or higher level (average score 3.0~5.0 on the rubric elements) in the capstone project/research.  |

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| **2018-19 Assessment Data** (Results can be shown by year or by semester) |
| Old assessment data is not comparable with new assessment data due to the implementation (Fall 2010) of a completely redesigned assessment protocol with new goals, targets and rubrics.**Fall 2010:** 100% of students achieved “Acceptable” or higher level (average score 3.0~5.0 on the rubric elements) in the capstone project/research.**Spring 2011:** 71.4% of students achieved “Acceptable” or higher level (average score 3.0~5.0 on the rubric elements) in the capstone project/research.**Fall 2011:** 100% of students achieved “Acceptable” or higher level (average score 3.0~5.0 on the rubric elements) in the capstone project/research. |
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| **Action Plan for 2021-22:** Based upon the assessment data included in this annual report, what changes/improvements will the program implement during the next academic year to improve performance on this student learning outcome? |
| None required. |

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| **Student Learning Outcome 4**(knowledge, skill or ability to be assessed) |
| Students will demonstrate acceptable teamwork skills. |

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| **Changes to the *Assessment Plan***If any changes were made to the *Assessment Plan* (which includes the *Student Learning Outcome*, *Measure*, *Methodology* and/or *Target*) for this *Student Learning Outcome* since your last report was submitted, briefly summarize the changes made and the rationale for the changes. |
| Methodology: Undergraduate assessment coordination responsibility was shifted from the Associate Chair to the Assistant Chair due to a realignment of administrative duties within the Computer Science Department. The Assistant Chair now gathers the raw data from the instructor(s) and submits all data in a summary report to the Undergraduate Committee for their analysis and input. These procedural changes were implemented to streamline and improve the efficiency of the reporting process. |

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| **Identify and Describe the *Measure***1. Identify the *Measure*, e.g., assignment, exam, project, paper, etc.2. Identify the *Evaluation Tool*, e.g., rubric, itemized analysis, etc., that will be used to gauge the acquisition of this *Student Learning Outcome*, and explain how it assesses the desired knowledge, skill or ability.3. Provide a copy of both, the *Measure* and the *Evaluation Tool* to be submitted electronically to the designated Box folder. |
| Teamwork score on **ITCS 3155 Software Engineering** group project - every Spring semester, the instructors of ITCS 3155 will assign a group project and a component of the project grade will be on each individual team member’s teamwork skills. The students will be assessed on their ability to contribute to team meetings; facilitate the contributions of other team members; work independently and responsibly to make contributions outside of actual team meetings; aid in the creation of a constructive team environment; and deal with conflict. [Project Link](file:///C%3A%5CUsers%5Cchightower%5CDesktop%5CAssessment%20UNCC%5COutline_for_3155_Team_Project.docx) [Scoring Rubric Link](file:///C%3A%5CUsers%5Cchightower%5CDesktop%5CAssessment%20UNCC%5CRubric%20for%20ITCS%203155%20Teamwor.docx)  |

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| **Identify and Describe the *Methodology***1. List the course(s) in which the data will be collected.2. Identify the person(s) responsible for the data collection.3. Describe how the data will be collected.4. Describe how the department will use and disseminate the *Findings* to program faculty.5. Describe how the program faculty will analyze the *Findings* to develop an *Action Plan*. |
| This outcome goal will be measured every Spring semester. This skill will be graded using a [scoring rubric](file:///C%3A%5CUsers%5Cchightower%5CDesktop%5CAssessment%20UNCC%5CRubric%20for%20ITCS%203155%20Teamwor.docx) with a scale of 1-5. Each instructor will fill out a [*CS SLO Assessment Form*](file:///C%3A%5CUsers%5Cchightower%5CDesktop%5CAssessment%20UNCC%5CCS%20SLO%20Assessment%20Internal%20Form_CR.docx)reporting the performance statistics of the students and submit it to the Assistant Chair. The Assistant Chair will provide additional analysis and comments as needed and will forward all results and suggestions to the Departmental Undergraduate Committee for discussion and analysis. The Committee will evaluate results, identify areas for improvement, and suggest changes to achieve minimum performance targets by submitting a report to the Department Chair, the Assistant Chair, and the College’s Associate Dean for Administration, copying each affected instructor.  |

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| **Establish the *Target***Identify the percentage of students and the expected *Level of Proficiency* for the students being assessed in this *Student Learning Outcome*. Example: 80% of the students being assessed will achieve a level of proficiency of “acceptable” or higher on the Oral Presentation Scoring Rubric.  |
| 80% of students will achieve “Acceptable” or higher level (average score 3.0~5.0 on the rubric elements) in the individual teamwork portion of the group project in ITCS 3155.  |

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| **2009-10 Assessment Data** (Results can be shown by year or by semester) |
| Old assessment data is not comparable with new assessment data due to the implementation (Fall 2010) of a completely redesigned assessment protocol with new goals, targets and rubrics.**Fall 2010:** 89.1% of students achieved “Acceptable” or higher level (average score 3.0~5.0 on the rubric elements) in the individual teamwork portion of the group project in ITCS 3155.**Spring 2011:** 71.4% of students achieved “Acceptable” or higher level (average score 3.0~5.0 on the rubric elements) in the individual teamwork portion of the group project in ITCS 3155.**Fall 2011:** 90% of students achieved “Acceptable” or higher level (average score 3.0~5.0 on the rubric elements) in the individual teamwork portion of the group project in ITCS 3155. |
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| ***Action Plan* for 2021-2022**Based upon the assessment data, *Findings* and *Analysis* from this year’s annual report, what changes will the program implement during the next academic year to improve performance on this *Student Learning Outcome*? |
| None required. |

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| **Student Learning Outcome 5**(knowledge, skill or ability to be assessed) |
| Students will demonstrate acceptable oral communications skills. |

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| **Changes to the *Assessment Plan***If any changes were made to the *Assessment Plan* (which includes the *Student Learning Outcome*, *Measure*, *Methodology* and/or *Target*) for this *Student Learning Outcome* since your last report was submitted, briefly summarize the changes made and the rationale for the changes. |
| Methodology: Undergraduate assessment coordination responsibility was shifted from the Associate Chair to the Assistant Chair due to a realignment of administrative duties within the Computer Science Department. The Assistant Chair now gathers the raw data from the instructor(s) and submits all data in a summary report to the Undergraduate Committee for their analysis and input. These procedural changes were implemented to streamline and improve the efficiency of the reporting process. |

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| **Identify and Describe the *Measure***1. Identify the *Measure*, e.g., assignment, exam, project, paper, etc.2. Identify the *Evaluation Tool*, e.g., rubric, itemized analysis, etc., that will be used to gauge the acquisition of this *Student Learning Outcome*, and explain how it assesses the desired knowledge, skill or ability.3. Provide a copy of both, the *Measure* and the *Evaluation Tool* to be submitted electronically to the designated Box folder. |
| Oral presentations in **ITCS 3688 Computers and Their Impact on Society**. The students will be assessed on their ability to introduce a topic as well as summarize main points. Other aspects to be assessed are pacing, voice, eye contact, poise, and use of gestures. [Presentation Topics & Guidelines Link](file:///C%3A%5CUsers%5Cchightower%5CDesktop%5CAssessment%20UNCC%5CITCS%203688%20Oral%20Presentation%20Guidelines.docx) [Scoring Rubric Link](file:///C%3A%5CUsers%5Cchightower%5CDesktop%5CAssessment%20UNCC%5CRubric%20for%20ITCS%203688%20Oral%20Presentations.docx)  |

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| **Identify and Describe the *Methodology***1. List the course(s) in which the data will be collected.2. Identify the person(s) responsible for the data collection.3. Describe how the data will be collected.4. Describe how the department will use and disseminate the *Findings* to program faculty.5. Describe how the program faculty will analyze the *Findings* to develop an *Action Plan*. |
| The instructor will grade students’ oral communication skills using an oral communication skill [scoring rubric](file:///C%3A%5CUsers%5Cchightower%5CDesktop%5CAssessment%20UNCC%5CRubric%20for%20ITCS%203688%20Oral%20Presentations.docx) with a scale of 1-5 with a scale of 1-5. The assessment will be performed by the ITCS 3688 instructor every Spring semester. Each instructor will fill out a [*CS SLO Assessment Form*](file:///C%3A%5CUsers%5Cchightower%5CDesktop%5CAssessment%20UNCC%5CCS%20SLO%20Assessment%20Internal%20Form_CR.docx)reporting the performance statistics of the students and submit it to the Assistant Chair. The Assistant Chair will provide additional analysis and comments as needed and will forward all results and suggestions to the Departmental Undergraduate Committee for discussion and analysis. The Committee will evaluate results, identify areas for improvement, and suggest changes to achieve minimum performance targets by submitting a report to the Department Chair, the Assistant Chair, and the College’s Associate Dean for Administration, copying each affected instructor.  |

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| **Establish the *Target***Identify the percentage of students and the expected *Level of Proficiency* for the students being assessed in this *Student Learning Outcome*. Example: 80% of the students being assessed will achieve a level of proficiency of “acceptable” or higher on the Oral Presentation Scoring Rubric.  |
| 80% of students will achieve “Acceptable” or higher level (average score 3.0~5.0 on the rubric elements) in the oral communication skills portion of the presentation grade in ITCS 3688.  |

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| **2009-10 Assessment Data** (Results can be shown by year or by semester) |
| Old assessment data is not comparable with new assessment data due to the implementation (Fall 2010) of a completely redesigned assessment protocol with new goals, targets and rubrics.**Fall 2010:** 100% of students achieved “Acceptable” or higher level (average score 3.0~5.0 on the rubric elements) in the oral communication skills portion of the presentation grade in ITCS 3688.**Spring 2011:** 82.6% of students achieved “Acceptable” or higher level (average score 3.0~5.0 on the rubric elements) in the oral communication skills portion of the presentation grade in ITCS 3688.**Fall 2011:** 95% of students achieved “Acceptable” or higher level (average score 3.0~5.0 on the rubric elements) in the oral communication skills portion of the presentation grade in ITCS 3688. |
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| **Plans for 2012-13:** Based upon the assessment data included in this annual report, what changes/improvements will the program implement during the next academic year to improve performance on this student learning outcome? |
| None required. |

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| **Student Learning Outcome 6**(knowledge, skill or ability to be assessed) |
| Students will demonstrate acceptable written communications skills. |

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| **Changes to the *Assessment Plan***If any changes were made to the *Assessment Plan* (which includes the *Student Learning Outcome*, *Measure*, *Methodology* and/or *Target*) for this *Student Learning Outcome* since your last report was submitted, briefly summarize the changes made and the rationale for the changes. |
| Methodology: Undergraduate assessment coordination responsibility was shifted from the Associate Chair to the Assistant Chair due to a realignment of administrative duties within the Computer Science Department. The Assistant Chair now gathers the raw data from the instructor(s) and submits all data in a summary report to the Undergraduate Committee for their analysis and input. These procedural changes were implemented to streamline and improve the efficiency of the reporting process. |

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| **Identify and Describe the *Measure***1. Identify the *Measure*, e.g., assignment, exam, project, paper, etc.2. Identify the *Evaluation Tool*, e.g., rubric, itemized analysis, etc., that will be used to gauge the acquisition of this *Student Learning Outcome*, and explain how it assesses the desired knowledge, skill or ability.3. Provide a copy of both, the *Measure* and the *Evaluation Tool* to be submitted electronically to the designated Box folder. |
| Written topic paper in **ITCS 3688 Computers and Their Impact on Society -** written communication skills are evaluated via a topic paper in ITCS 3688 Computers and Their Impact on Society. The students are assessed on their overall organization, grasp of content knowledge, use of proper grammar and spelling, ability to reach a justified conclusion, and use of proper citations. [Paper Topics & Guidelines Link](file:///C%3A%5CUsers%5Cchightower%5CDesktop%5CAssessment%20UNCC%5CITCS%203688%20Writing%20Assignment%20Guidelines.docx) [Scoring Rubric Link](file:///C%3A%5CUsers%5Cchightower%5CDesktop%5CAssessment%20UNCC%5CRubric%20for%20ITCS%203688%20Written%20Assignment.docx)  |

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| **Identify and Describe the *Methodology***1. List the course(s) in which the data will be collected.2. Identify the person(s) responsible for the data collection.3. Describe how the data will be collected.4. Describe how the department will use and disseminate the *Findings* to program faculty.5. Describe how the program faculty will analyze the *Findings* to develop an *Action Plan*. |
| The instructor will access students’ written communication skills based on the student final topic paper, using a written communication skill [scoring rubric](file:///C%3A%5CUsers%5Cchightower%5CDesktop%5CAssessment%20UNCC%5CRubric%20for%20ITCS%203688%20Written%20Assignment.docx) with a scale of 1-5. The assessment will be performed by the ITCS 3688 instructor every Spring semester. Each instructor will fill out a [*CS SLO Assessment Form*](file:///C%3A%5CUsers%5Cchightower%5CDesktop%5CAssessment%20UNCC%5CCS%20SLO%20Assessment%20Internal%20Form_CR.docx)reporting the performance statistics of the students and submit it to the Assistant Chair. The Assistant Chair will provide additional analysis and comments as needed and will forward all results and suggestions to the Departmental Undergraduate Committee for discussion and analysis. The Committee will evaluate results, identify areas for improvement, and suggest changes to achieve minimum performance targets by submitting a report to the Department Chair, the Assistant Chair, and the College’s Associate Dean for Administration, copying each affected instructor.  |

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| **Establish the *Target***Identify the percentage of students and the expected *Level of Proficiency* for the students being assessed in this *Student Learning Outcome*. Example: 80% of the students being assessed will achieve a level of proficiency of “acceptable” or higher on the Oral Presentation Scoring Rubric.  |
| 80% of students will achieve “Acceptable” or higher level (average score 3.0~5.0 on the rubric elements) in the written communication skills portion of the final topic paper grade in ITCS 3688. |

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| **2009-10 Assessment Data** (Results can be shown by year or by semester) |
| Old assessment data is not comparable with new assessment data due to the implementation (Fall 2010) of a completely redesigned assessment protocol with new goals, targets and rubrics.**Fall 2010:** 100% of students achieved “Acceptable” or higher level (average score 3.0~5.0 on the rubric elements) in the written communication skills portion of the final topic paper grade in ITCS 3688.**Spring 2011:** 73.9% of students achieved “Acceptable” or higher level (average score 3.0~5.0 on the rubric elements) in the written communication skills portion of the final topic paper grade in ITCS 3688.**Fall 2011:** 95% of students achieved “Acceptable” or higher level (average score 3.0~5.0 on the rubric elements) in the written communication skills portion of the final topic paper grade in ITCS 3688. |
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| ***Action Plan* for 2021-2022**Based upon the assessment data, *Findings* and *Analysis* from this year’s annual report, what changes will the program implement during the next academic year to improve performance on this *Student Learning Outcome*? |
| None required. |

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| **Student Learning Outcome 7**(knowledge, skill or ability to be assessed) |
| Students will demonstrate knowledge of professional and ethical responsibilities. |

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| **Changes to the *Assessment Plan***If any changes were made to the *Assessment Plan* (which includes the *Student Learning Outcome*, *Measure*, *Methodology* and/or *Target*) for this *Student Learning Outcome* since your last report was submitted, briefly summarize the changes made and the rationale for the changes. |
| Methodology: Undergraduate assessment coordination responsibility was shifted from the Associate Chair to the Assistant Chair due to a realignment of administrative duties within the Computer Science Department. The Assistant Chair now gathers the raw data from the instructor(s) and submits all data in a summary report to the Undergraduate Committee for their analysis and input. These procedural changes were implemented to streamline and improve the efficiency of the reporting process. |

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| **Identify and Describe the *Measure***1. Identify the *Measure*, e.g., assignment, exam, project, paper, etc.2. Identify the *Evaluation Tool*, e.g., rubric, itemized analysis, etc., that will be used to gauge the acquisition of this *Student Learning Outcome*, and explain how it assesses the desired knowledge, skill or ability.3. Provide a copy of both, the *Measure* and the *Evaluation Tool* to be submitted electronically to the designated Box folder. |
| A peer-reviewed paper relating to ethics in **ITCS 3688 Computers and Their Impact on Society**. The students are given a professional situation that has at least one embedded ethical dilemma. The students will be assessed on their overall organization, grasp of ethical issues, use of proper grammar and spelling, ability to reach a justified conclusion, and use of proper citations. [Peer-reviewed Ethics Paper Link](file:///C%3A%5CUsers%5Cchightower%5CDesktop%5CAssessment%20UNCC%5CITCS%203688%20Peer%20Reviewed%20Ethics%20Paper%20Assignment.docx) [Scoring Rubric Link](file:///C%3A%5CUsers%5Cchightower%5CDesktop%5CAssessment%20UNCC%5CRubric%20for%20ITCS%203688%20Peer%20Reviewed%20Ethics%20Paper.docx)  |

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| **Identify and Describe the *Methodology***1. List the course(s) in which the data will be collected.2. Identify the person(s) responsible for the data collection.3. Describe how the data will be collected.4. Describe how the department will use and disseminate the *Findings* to program faculty.5. Describe how the program faculty will analyze the *Findings* to develop an *Action Plan*. |
| A peer-reviewed paper relating to ethics will be graded by the ITCS 3688 instructor using a [scoring rubric](file:///C%3A%5CUsers%5Cchightower%5CDesktop%5CAssessment%20UNCC%5CRubric%20for%20ITCS%203688%20Peer%20Reviewed%20Ethics%20Paper.docx) for knowledge of professional and ethical responsibilities with a scale of 1-5. The assessment will be performed by the ITCS 3688 instructor every Spring semester. Each instructor will fill out a [*CS SLO Assessment Form*](file:///C%3A%5CUsers%5Cchightower%5CDesktop%5CAssessment%20UNCC%5CCS%20SLO%20Assessment%20Internal%20Form_CR.docx)reporting the performance statistics of the students and submit it to the Assistant Chair. The Assistant Chair will provide additional analysis and comments as needed and will forward all results and suggestions to the Departmental Undergraduate Committee for discussion and analysis. The Committee will evaluate results, identify areas for improvement, and suggest changes to achieve minimum performance targets by submitting a report to the Department Chair, the Assistant Chair, and the College’s Associate Dean for Administration, copying each affected instructor.  |

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| **Establish the *Target***Identify the percentage of students and the expected *Level of Proficiency* for the students being assessed in this *Student Learning Outcome*. Example: 80% of the students being assessed will achieve a level of proficiency of “acceptable” or higher on the Oral Presentation Scoring Rubric.  |
| 80% of students will achieve “Acceptable” or higher level (average score 3.0~5.0 on the rubric elements) on peer-reviewed paper in ITCS 3688. |

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| **2009-10 Assessment Data** (Results can be shown by year or by semester) |
| Old assessment data is not comparable with new assessment data due to the implementation (Fall 2010) of a completely redesigned assessment protocol with new goals, targets and rubrics.**Fall 2010:** 100% of students achieved “Acceptable” or higher level (average score 3.0~5.0 on the rubric elements) on peer-reviewed paper in ITCS 3688.**Spring 2011:** 78.3% of students achieved “Acceptable” or higher level (average score 3.0~5.0 on the rubric elements) on peer-reviewed paper in ITCS 3688.**Fall 2011:** 95% of students achieved “Acceptable” or higher level (average score 3.0~5.0 on the rubric elements) on peer-reviewed paper in ITCS 3688. |
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| ***Action Plan* for 2021-2022**Based upon the assessment data, *Findings* and *Analysis* from this year’s annual report, what changes will the program implement during the next academic year to improve performance on this *Student Learning Outcome*? |
| None required. |