Comprehensive Program

Of

Associate of Science Computer Science

For

AY 2019-2020

Prepared by

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# 1.0 Program Data and Resource Repository

1.1 Program Summary
Narrative:

The AS in Computer Science prepares students for a general degree in Computer Science or Information Systems by providing the basic courses for transfer to a four-year college or university. This program is intended to meet the requirements of the first two years of a sequence of courses leading to a bachelor's degree or prepares a student to enter the job market in Computer Science or Information Systems.

**Computer Science (CSE)
Degree: Associate of Science**

The Computer Science program prepares students for a degree in Computer Science or Information Systems by providing the basic courses for transfer to a four-year college or university. This program is intended to meet the requirements of the first two years of a sequence of courses leading to the bachelor’s degree or prepares a student to enter the job market in Computer Science or Information Systems.

**Analysis & Oral Communication (9 hours) Credit Hours**
English Composition I (ENG 1003) 3
English Composition II (ENG 1013) 3
Public Speaking (COM 1203) 3

**Mathematics (3 hours) Credit Hours**
College Algebra (MAT1023) or higher 3

**Sciences (10 hours) Credit Hours**
**Natural Sciences (1 required course)**
General Biology (non-majors) (BIO 1005) 5
**Physical Science (Select 1 required course)**
Chemistry for non-majors (PHS 1015) 5
Descriptive Astronomy (PHS 1085) 5
Physical Science (PHS 1005) 5

The program should provide a descriptive summary of the program.

### **Fine Arts &Aesthetic Studies (3 hours) Credit Hours**

### Art Appreciation (ART 1043) 3

### Drawing and Composition (ART 1023) 3

### Music Appreciation (MUE 1303) 3

### Music Theory I (MUE 1093) 3

### Creative Writing (ENG 2023) 3

### Theatre Appreciation (THR 1013) 3

### Acting I (THR 1023) 3

### Stagecraft I (THR 1033) 3

### **Cultural Studies (3 hours) Credit Hours**

### Spanish I, II, III (FRL 1025, 1035, 2035) 5

### World Regional Geography (GEO 2013) 3

### Intro to Race and Ethnic Relations (SOC 2113) 3

### African American History (HIS 1163) 3

### World History I (HIS 1003) 3

### World History II (HIS 1013) 3

### World Religions (REL 1053) 3

### **Health & Well-Being (3 hours) Credit Hours**

### Psychological

### General Psychology (BEH 1003) 3

### **Human Heritage (9 hours) Credit Hours**

### History (Select 1)

### US History I (HIS 1023) 3

### US History II (HIS 1063) 3

### **Literature (Select 1)**

### Introduction to Literature (ENG 1073) 3

### **Philosophy and Religion (Select 1)**

### Introduction to Philosophy (PHI 2003) 3

### Ethics (PHI 1073) 3

### Logical and Classical Reasoning (PHI 2073) 3

### World Religions (REL 1053) 3

### **Social Awareness (3 hours) Credit Hours**

### Introduction to Sociology (SOC 1003) 3

### Social Problems (SOC 2023) 3

### **Political Awareness (3 hours) Credit Hours**

### American Government (POL 1023) 3

### Introduction to Political Science (POL 1013) 3

### **Business and Technology (6 hours) Credit Hours**

### **(Select 1)**

### Microeconomics (BUS 2023) 3

### Macroeconomics (BUS 2033) 3

### **(Select 1)**

### Computer Concepts & Applications (CIT 1003) 3

### Computer Information Systems (CIT 2003) 3

### **Major Courses (9 hours) Credit Hours**

### Programing Language Elective\*\* 3

### Program Electives 6

### **TOTAL: 61**

### Suggested Program Electives:

### Calculus I (MAT 1055) 5

### Elementary Statistics (MAT 1103) 3

### Introduction to Computer Science (CSE 1033) 3

### Web Design and Development (CIT 1033) 3

### Adv. Web Design and Development (CIT 2143) 3

### Networking & Data Communications (CSE 2033) 3

### Word I/ Windows (CIT 1652) 2

### Intro to Spreadsheets (CIT 1202) 2

### Intro to Database Management (CIT 1552) 2

### Mobile/Web App Design & Dev. (CSE1033) 3

### Basics of Python Programming (CSE1073) 3

### HTML5 Game Play (CSE1023) 3

### Personal Finance (BUS 1003) 3

### Introduction to Accounting (ACC 1003) 3

### \*\*See Program Advisor

1.2 Quantitative and Qualitative Data

All programs are provided with the most recent two years of data by the Office of Institutional Research (IR) as well as two-year budget data provided by the Business Office.

The data sets provided by the Office of Institutional Research include the following elements for the most recent two (completed) academic years:

* Number of Faculty (Full Time; Part Time; Total)
* Student Credit Hours by Faculty Type
* Enrollment by Faculty Type
* Faculty Name by Type
* Average Class Size, Completion, and Attrition
* Course Completion, Success and Attrition by Distance Learning v Face-to-Face
* Number of Degrees/Certificates Awarded
* Number of Graduates Transferring (if available from IR)
* Number of Graduates Working in Related Field (technical programs only)
* Expenditures and Revenues

Additional data may also be available for reporting from the Office of Institutional Research, as applicable. Requests for additional data must be made through a data request.

*(See Section 1.2 in the Program Review Handbook for more information.)*

### Narrative:

Computer Science (CSE) Data AY 2018

**Number of Faculty:**
3 Full time (1 dedicated to Web Design & Computer Science, 1 dedicated to IS, IT & Fab Force and the other 1 dedicated to AOM and teaches several CCA classes)
0 part time
**Enrollment & Student credit hours by Faculty type:**
Full time: 91 total credit hours taught, 331 with total students enrolled
Part time: 0 credit hours taught, 0 total students enrolled
**Average Class size:**
11.58 students in Face-to-Face classes
13.25 students in online classes
11.82 students across all courses
**CCA Completion rates:**
99.03% face-to-face
90.38% online
97.30% all CCA classes
**CCA Pass (‘D’ or better) rates:**
90.73% face-to-face
82.98% online
89.29% all CCA classes
**Other CIT & CSE Course Completion rates:**
92.96% face-to-face
100% online
93.06% all courses

**Number of Majors:** 13 (4 returned in Fall 2018)
**Degrees Awarded:** 4

Computer Science Program Review Data AY 2019

Looking at all CSE courses offered and CIT courses listed under “Suggested Program Electives” on the degree plan

**Number of Faculty:**

3 full time (1 dedicated to Web Design & Computer Science, 1 dedicated to IS, IT & Fab Force (moved to full-time Accounting) and the other 1 dedicated to AOM and teaches several CCA classes and has taken over the IT responsibilities)

0 part time

**Enrollment & Student credit hours by Faculty type:**

Full time: 31 total credit hours taught, with 50 total students enrolled

Part time: 0 credit hours taught; 0 total students enrolled

**Average Class size:**

5.00 students in Face-to-Face classes

0 students in online classes

5.00 students across all courses

**Completion rates:**

96.00% face-to-face

0% online

96.00% all courses

**Pass (‘D’ or better) rates:**

89.58% face-to-face

0% online

89.58% all courses

**Pass (‘C’ or better) rates:**

89.58% face-to-face

0% online

89.58% all courses

**Number of Majors:** 13 (4 returned in Fall 2019)

**Degrees Awarded:** 4

Computer Science Program Review Data AY 2019

Looking at CIT and CSE courses listed under “Suggested Program Electives” on the degree plan

**Number of Faculty:**

2 full time (Blaes, Coy)

0 part time

**Enrollment & Student credit hours by Faculty type:**

Full time: 21 total credit hours taught, with 19 total students enrolled

Part time: 0 credit hours taught; 0 total students enrolled

**Average Class size:**

3.20 students in Face-to-Face classes

1.50 students in online classes

2.71 students across all courses

**Completion rates:**

93.75% face-to-face

100% online

94.74% all courses

**Pass (‘D’ or better) rates:**

86.67% face-to-face

0% online

72.22% all courses

**Pass (‘C’ or better) rates:**

86.67% face-to-face

0% online

72.22% all courses

**Number of Majors:** 7 (3 returned in Fall 2019)
**Degrees Awarded:** 2

# 2.0 Student Success

##  2.1 Define Student Success

The program faculty should provide a definition of how student success is defined by the program.  *(See Section 2.1 in the Program Review Handbook for more information.)*

### Narrative:

Student success is defined as the successful completion of an Associates of Science in Computer Science. It is also intended for most students to transfer to a four-year institution. For those students in, or seeking entrance into the workforce, success is defined as gaining knowledge and skills to help achieve employment or greater responsibility in their present positions.

##  2.2 Achieve/Promote Student Success

The program faculty should describe how the program achieves and promotes student success.  *(See Section 2.2 in the Program Review Handbook for more information.)*

### Narrative:

The intention of the Faculty teaching Computer Science and Computer Information Systems classes is to make the curriculum interesting, timely and to promote the desire on the part of the students to continue to increase their knowledge of the computer industry in the future. We also address the ethical nature of the subject and encourage student to be well informed in this area for whatever career they choose. It is intended to make classes available on ground as well as in an online environment to help student from diverse backgrounds and life situations the ability to achieve their degree.

# 3.0 Assessment of Student Learning Outcomes

3.1 Reflection on assessment

The program faculty should provide a narrative reflection on the assessment of program curriculum. Please provide data gathered for outcomes at both program, course, and general education levels.  Please review the Assessment Handbook for resources on gathering this information provided by the Assessment Committee.

### Narrative:

The AS in Computer Science program outcomes currently focus on programming language electives, program electives and assignments for assessment of study readiness for the next level. Each semester faculty reflect on assessment data for the semester and determine if there are high priority changes that need made or if changes will be implemented in the new semester.

Individual course outcome data can be found in Appendix A. Capstone projects and assignments for each of the program courses (not necessarily the general education courses) are used to determine overall success in the program when a student graduates. Below is a summary of findings at the program level. In the future faculty will be tying these capstone projects to Program Outcomes in Canvas so graphs and charts can be shared to provide an easy visual representation of student success at the program level.

The institution is currently revamping how General Education Data is collected and reported. In the past General Education Outcomes have been assessed via the Liberal Studies degree. In the future it is possible that the course assignments will be tied to General Education Outcomes in Canvas. That decision will be made in collaboration with faculty, VPAA, and the Assessment Committee.

Program Level Outcomes:

1. Students will be able to analyze a variety of complex information systems.
2. Students taking courses within the Computer Science degree program have several classes to choose from for their 12 hours of electives. The measure for this outcome is that 70% of students will score 70% or better on the project for the course chosen. This outcome has been met in the last two years. Students have scored in the 80th percentile or higher on their projects.
3. The student will be able to apply and demonstrate power usage of computer science skills.
4. The student will be able to organize and prepare a system for solving problems.
5. The student will be able to demonstrate effective collaboration and communication skills.

93% of our Computer Science students passed program specific courses (Web Design, Adv Web Design, Networking & Data Communications, Mobile/Web App, and HTML5) with a C, 70%, or better.

Reflection: Material currently covered, assignments, projects, exams are adequate for preparing students to move to the next level (transfer to 4-year university) or to obtain entry level employment as a computer network support technician, information technology specialist, or help desk technician.

3.2 Significant Assessment Findings

The program faculty should provide a narrative overview of the program's significant student learning outcomes assessment findings, any associated impact on curriculum, as well as any ongoing assessment plans. The program may attach data charts, assessment reports or other relevant materials. *(See Section 3.2 in the Program Review Handbook for more information.)*

### Narrative:

The following is an example of the summary sheet for assessment data in our classes. The information shown, shows how accurately the students completed outcomes, and what changes were made for the next semester. As you look through each outcome you will find that most of the assessment data shows that only small changes had to be made. This is a representative of assessment data. Each assessment report for the past two years is in the appendix.

Assessment Report for ***Computer Concepts & Applications CIT1003***

Term: Fall 2019

Summary Table

|  |  |  |
| --- | --- | --- |
| Learning Outcome  | Met/    Partially Met/ Not Met  | Summary of Future  Planned Action(s)  |
| 1. Identify the specifications and configurations of computer hardware.   |   Met  | We have transitioned to a new type of software, Cirrus, being used in our CCA classes. This was a slow learning curve this semester and we have several tweaks that have been made and still need to be made.  |
| 2. Identify the role of an operating system.   |  Met  |  Same as above  |
| 3. Use the Internet to find information and determine its credibility.   |  Met   |  Same as above   |
| 4. Use word processing software to create, edit, and produce professional documents.  |  Partially Met   |  Same as above    |
| 5. Create spreadsheets and charts for problem-solving.  |  Partially Met   |  Same as above   |
| 6. Utilize a database.  |  Not Met   | We did not have time to thoroughly cover Access this semester. |
| 7. Use presentation software to create, edit, and produce professional presentations.  |  Partially Met   |  Same as above   |
| 8. Identify the ethical and social standards of conduct regarding the use of information and technology.  |  Met   |  Same as above   |
| 9. Identify security threats and solutions.  |  Met   |  Same as above   |

3.3 Ongoing Assessment Plans

The program faculty should describe ongoing assessment plans and attach any new assessment progress reports for the current or past academic year.

### Narrative:

Assessment continues to be an important part of understanding student success. Starting with the Fall semester (2019) all faculty were to include their outcomes within at least one of their courses in Canvas. Beginning with the Spring semester (2020) all faculty were to include their outcomes within all their courses in Canvas. These outcomes and measures are recorded and reported so faculty can make good decisions on improvements. Faculty reflect and make changes each semester or each year depending on course and need.

4.0 External Constituency and Significant Trends

An important component of maintaining a superior program lies in awareness and understanding of other possible factors that may impact the program and/or student outcomes. After consideration of these other factors, program faculty should document the relevant information within this section. As applicable, this should include the following.

## 4.1: Program Advisory Committee:

### Narrative:

* IncludeAdvisory Member Name/ Title/ Organization/ Length of Service on committee; note the Committee Chair with an asterisk (\*).
* Upload meeting minutes from the previous spring and fall semesters and attach in the appendices section (10.0).

This is a transfer degree. No committee.

## 4.2: Specialized Accreditation:

* Include Accrediting Agency title, abbreviation, ICC contact; Agency contact, Date of Last Visit, Reaffirmation, Next Visit, FY Projected Accreditation Budget.
* Upload the most recent self-study and site visit documents.
* Upload agency correspondence which confirm accreditation status.

### Narrative:

N/A

## 4.3:  Other:

Discuss any external constituencies that may apply to the program.  *(See Section 4.3 in the Program Review Handbook for more information.)*

### Narrative:

The AS Computer Science degree program follows our KBOR articulation requirement for student transferring to any Kansas university. If this program is followed, students should be able to seamlessly transfer to any of the Kansas universities and many out-of-state colleges. All the core classes for the Computer Science degree have met the Kansas Core Outcomes approval as equal transfer class to all Kansas universities. Both facts show alignment with KBOR and HLC’s accreditation requirements. It is, as expected, heavy with general education requirements and a few elective classes from our computer areas.

The following are HLC goals that are being addressed in this review:
Core Components

3. A. The institution’s degree programs are appropriate to higher education.

Category 1: Courses and programs are current and require levels of performance by students appropriate to the degree or certificate awarded.

* This program meets this core component by offering the first two years of a 4-year degree.

This program also meets the ICC Core Values of Excellence, Responsiveness, and Diversity/Enrichment:

* Excellence: Academic excellence of this program has been met through the completion of this review and working to improve the courses offered through assessment of student learning and making modifications as needed to continue improvement.
* Responsiveness: Addressed the changes for Computer Science by updating this program to meet the KBOR articulation agreement, which meets the program requirements for all the Kansas universities.
* Diversity/Enrichment: Students are exposed to International issues with Computer Science and exposed to the difference between policies of other countries. Students are also informed of the male/female career ratio unbalance.

Category 2: Maintain current levels of support/continuous improvements. This program should be continued as presented. Computer Science is a degree that offers several possibilities for students entering many different computer related fields for transfer.

Earning an associate degree in computer science can prepare students for entry-level employment or further education. While students can learn the basics of computer languages, troubleshooting, programming and design on their own, many employers prefer to interview and hire formally trained applicants.

Experts anticipate that employment opportunities for computer scientists will increase throughout the next decade. According to the Bureau of Labor Statistics, web development jobs will increase by 13% by 2028, adding nearly 21,000 new positions to the economy. An associate degree is all students will need for some jobs, and these programs prepare you to earn a bachelor’s degree in the subject as well.

While students are pursuing their computer science associate degree, they will develop an understanding of the basic principles and practices needed to program and maintain computer and computer systems. Students will also complete many of the general education courses required by most four-year schools.

Computer science programs usually provide students with hands-on learning experiences, requiring them to complete an internship or demonstrate proficiency in lab work as a prerequisite for graduation.

“Associate Degree in Computer Science.” *ComputerScience.org,* [www.computerscience.org/degrees/associate/](http://www.computerscience.org/degrees/associate/). 11 Jan. 2020

This is the table from the Bureau of Labor Statistics for all of the Computer and Information Technology Occupations: <https://www.bls.gov/ooh/computer-and-information-technology/web-developers.htm>

# 5.0 Curriculum Reflection

 5.1 Reflection on Current Curriculum

The program faculty should provide a narrative reflection that describes the program’s curriculum holistically. The following are prompts formulated to guide thinking/reflection on curriculum. While presented in question form, the intent of the prompts is to stimulate thought and it is not expected that programs specifically answer each and every question.

* Is the curriculum of the program appropriate to the breadth, depth, and level of the discipline?
* How does this program transfer to four-year universities? (give specific examples)
* What types of jobs can students get after being in your program? (Please use state and national data)
* How dynamic is the curriculum? When was the last reform or overhaul?
* In the wake of globalization, how “internationalized” is the curriculum?
* How does the program assess diversity?
* Does the program have any community-based learning components in the curriculum?

### Narrative:

The AS Computer Science degree program follows our KBOR articulation agreement for students transferring to any Kansas university. If this program is followed, students should be able to seamlessly transfer to any of the Kansas universities and many out-of-state colleges. All the core classes for the Computer Science degree have met the Kansas Core Outcomes approval as equal transfer class to all Kansas universities. Both facts show alignment with KBOR and HLC’s accreditation requirements. It is, as expected, heavy with general education requirements and a few elective classes from our computer areas.

Students in one of the Computer Concepts classes were asked about their career choices this semester. Several answered with computer related fields. This is very interesting especially since they all have General Studies or Liberal Studies as their degree major. When asked why they are General Studies or Liberal Studies majors, they answered that they were led in that direction by their navigator.

So, we will continue to lose degree majors because students and especially student/athletes are being strongly encouraged to choose General Studies and Liberal Studies degrees. This is even though our Computer Science (AS) degree is set up just like the Liberal Studies degree. Therefore, a student planning to transfer with a computer related field degree choice could major in Computer Science and receive the same transferability as a Liberal Studies degree.



 National Center for O\*NET Development. 25-2032.00. *O\*NET OnLine*. Retrieved July 28, 2016, fromhttp://www.onetonline.org/link/summary/25-2032.00 11 Jan. 2020

5.2 Degree and Certificate Offerings or Support

Program faculty should list what degrees and certificates are offered and/or describe how the program curriculum supports other degrees and/or certificates awarded by the college.

### Narrative:

This is an Associate’s of Science degree in Computer Science. Students typically elect to transfer to a university to complete any number of computer related degrees once their first two years of general education are out of the way. While here at ICC, they get their general education classes done and a few choice Computer Science classes.

Students may choose this degree if they were going to transfer in computer science, programming, web design, graphic design, software development, information support & services, network systems, or web and digital communications.

6.0 Faculty Success

6.1 Program Accomplishments

The program faculty should highlight noteworthy program accomplishments.

### Narrative:

This degree was revised in the Fall of 2017. These programs are typically male dominated, however there has been a concentrated effort to encourage females to enter the stemtech world. The past three summers a grant was provided by Verizon and ICC Fab Lab where we hosted a STEM camp for 100-6th, 7th, and 8th grade girls. The camp was held for three weeks each July on ICC campus where the girls learned design thinking and a variety of technology in order to help solve a problem they come up with themselves or in a group.

Several of our international students have graduated with AS degrees in Computer Science from ICC.

6.2 Faculty Accomplishments

The program faculty should highlight noteworthy accomplishments of individual faculty.

### Narrative:

The lead Computer Science faculty member (Tamara Blaes) has been teaching in the Business and Computer technology department for almost 11years. Professor Blaes has an MS is Business Education with additional graduate hours in Instruction Design and Teaching with Technology. She has spent the past three summers working with the VIL STEM summer camp that has been hosted here at ICC through a grant with Verizon and our very own Fab Lab. She has also served in several leadership positions at ICC. Serving as a Division Chair (1 year), Faculty Senate President (1 year), Assessment Committee Chair (1 year), Assessment Academy (3 years), Faculty Association Treasurer (2 years) and a member of Council of Chairs. During the years Professor Blaes served on the Assessment Committee and Assessment Academy, her and Professor Ashford took the initiative to host assessment training every Friday afternoons for an entire year for any Faculty and Staff who needed help or just wanted to come and work on their assessment.

The newest full-time faculty to our department, Jody Coy, has been with the department for almost 3 years however, she has worked at ICC for nearly 17 years. Associate Professor Coy has a BS in Computer Information Systems and is currently working on her MA in Business Education, Information Systems/Operations Management. She has been the chair of the Events Committee for 10 years and a member of Faculty Association. She was a member of Professional Development for 5 years and is a member of Council of Chairs.

6.3 Innovative Research, Teaching and Community Service

The program faculty should describe how faculty members are encouraged and engaged in promoting innovative research, teaching, and community service.

### Narrative:

Professor Blaes has been working with the Verizon Innovative Learn Science, Technology, Education & Math (VIL STEM) Camp for the past 3 years providing innovative ways of teaching design thinking to 6th, 7th & 7th grade girls from all around. They have been using creative ideas to solve problems in their lives and their communities. This learning continues year-round as monthly workshops provide a space where the girls come to together at the Fab Lab or another location and learn something new, they can use to help them continue to grow and experiment. Professor Blaes attended a STEM conference/learning institute spring 2020 to learn more skills and ideas to bring back the STEM leadership team.

Professor Blaes is also on the Cherryvale High School Alumni Board where she serves as Scholarship Committee Chair. Her role as chair of the scholarship committee means organizing the yearly group with dates for the scholarship review, interviews, placement of students to scholarships, board approval meeting and Senior Night where Cherryvale High School student are presented the scholarships. In addition to these duties she also collects all the scholarship applications and acquires copies to be hand delivered to all the committee members prior to the interviews. It is a very gratifying to meet each of the scholarship applicants and to hear their stories. Then to be a part of helping them with their post high school education. Many make their way to ICC, through concurrent classes and/or full-time attendance.

# 7.0 Program Planning & Development for Student Success

7.1 Narrative Reflection on Qualitative and Quantitative Data and Trends

Provide a thoughtful reflection on the available assessment data.*(See Section 7.1 in the Program Review Handbook examples.)*

### Narrative:

Assessment data provided by the institutional researcher shows a completion rate of 96% during AY2018 for students who enrolled in face-to-face computer science classes. The same group completion rate for AY2019 was 94%. Students passing with a C or better in AY2018 was 90% and in AY2019 the rate was 87%.

In the Academic Year 2018 there were a total of 13 Associates of Science Computer Science majors and 4 students who graduated with their degrees. In the Academic Year 2019 there were a total of 7 Associates of Science Computer Science majors and 2 students who graduated with their degrees. This information is misleading when thinking about retention and completion. Several students attend with the intention of never finishing their Associates Degree by getting certain classes out of the way before they transfer to a 4-year university. Another problem observed in the last few years was the number of students who declared they were Computer Science majors by never took a single computer science class. Still another larger issue is the many Computer Science majors who declare as Liberal Studies or General Studies majors in order to fulfill their graduation requirements to get to the next step or level only to find out they needed so many more courses they could have taken if they would have declared as a Computer Science major.

All the core classes offered by ICC for the AS in Computer Science degree are certified as equivalent class transfers by the Kansas core outcomes group. This means that all the classes transfer exactly as those core classes to any university in the state of Kansas under KBOR rules. They will transfer seamlessly to many out-of-state universities as well.

The number of instructors which taught Computer Science degree related classes (AY 2017-2018 to 2018-2019) has gone from three full-time instructors to one full-time instructor. One of the instructors has been moved to a new position of instruction and the other is over two other programs that are being revamped (AOM & CIT).

7.2 Academic Program Vitality Reflection, Goals and Action Plans

The program vitality assessment, goals and action planning are documented by completing the Program Summative Assessment form.

Programs should use previous reflection and discussion as a basis for considering program indicators of demand, quality, and resource utilization and a program self-assessment of overall program vitality. *(See Section 7.2 in the Program Review Handbook for more information.)*

### Narrative:

Vitality assessment falls under category 2: Maintain Current Levels of Support/Continuous Improvement

This assessment is based on the following information:

* Courses are offered on a regular rotation to fulfill student need in the CSE degree.
* Student to teacher ratio remains manageable.
* Students are completing the courses successfully and transfer onto four-year universities.
* Costs for the CSE program are kept low with only one full-time instructor and low-cost equipment and material needs.
* This degree is still highly sought after, and computer science majors are needed at various levels.
* The program provides students with opportunities to grow academically. It aligns well with our goals to provide academic excellence and economic development.
* Costs are low due to the fact many of the courses taught by the CSE instructor are also taken by non-majors. There needs to be more marketing and institutional support specifically for the Computer Science & Web Design degree programs if there is a hope of retaining and increasing enrollment.
* Institutional data shows the Computer Science program started the 17-18 AY with 13 declared majors. 4 of those majors graduated at the end of the year, 4 of the majors returned in the fall of 2018 and 4 students transferred to 4-year schools without graduating. Then again in AY 18-19, there were 13 declared majors, 4 graduated at the end of the year and 6 students transferred to 4-year schools without graduating.

This program should be continued as presented. Computer Science is a degree that opens several possibilities for students and there is always a strong demand for those entering the field. At the time only one instructor teaches all the core classes for this program and those same classes are requirements in several other degrees. This keeps the cost of the program at a minimum.

Note: Study in computer science leads to a variety of opportunities in organizations in the public and private sectors of the economy. Upon completion of the associate degree, students will be prepared for entry-level positions within organizations, able to transfer to a baccalaureate program, or possess the rudimentary information necessary to start their own businesses.

In addition to those students who are pursuing degrees, many others enroll in computer science courses to master specific skills in order to improve employment opportunities. Also, many transfer students do not always take those courses required for degree completion but take the core courses to get their first year out of the way before transferring to a baccalaureate program. Measures should be developed that incorporate these factors into success results.

## 7.3 Academic Program Goals and Action Plans

Programs will also establish or update 3 to 5 long-term and short-term goals and associated action plans which support student success. These goals should include consideration of co-curricular and faculty development activities. Long-term goals are considered to be those that extend 3 to 5 years out, while short-term goals are those that would be accomplished in the next 1 to 2 years.  Additionally, programs should update status on current goals. Programs should use S.M.A.R.T. goal setting for this purpose. *(See Section 7.3 in the Program Review Handbook for more information.)*

### Narrative:

Goal 1: Maintain or increase student engagement in program specific courses during the next 3-4 years (2020-2023) by increasing experiential learning opportunities for students. To help achieve this goal program faculty should attend professional development opportunities specializing in this type of learning within Computer Science programs. Student engagement can/will be measured by student survey questions specific to engagement with material.

Goal 2: Maintain or improve student academic performance in technical computer science skills during the next 3-4 years (2020-2023). The student performance will be evidenced by passing scores on final exams or final projects in programming and program elective courses. Accomplishing this goal will help ensure students are work read and/or ready for upper level Computer Science course work.

Goal 3: Student improvement of soft skills (critical thinking, problem solving, communication, leadership) during the next 3-4 years (2020-2023). The improvement will be evidenced by successful completion of class projects in programming and program elective courses. This goal will help prepare students for the workplace and/or ready for upper level Computer Science course work.

7.4 Mission and Strategic Plan Alignment

### Narrative:

Program faculty should indicate the ways in which the program's offerings align with the ICC mission. Also, in this section program faculty should provide narrative on the ways that initiatives may be tied to the ICC Strategic Plan and to HLC accreditation criterion. It is not necessary to consider an example for each HLC category, but program faculty are encouraged to provide one or two examples of initiatives in their program that are noteworthy.  These examples may be helpful and included in future campus reporting to HLC. (Refer to section 4.3 for HLC categories)

The Computer Science program aligns with the ICC mission and ICC Strategic Plan by providing academic excellence. Cultural enrichment is circumstantial with interaction between students with diverse backgrounds and discussions of international web and network use in the computer science field.

This program meets the ICC Core Values of Excellence, Responsiveness, and Diversity/Enrichment:

* Excellence: Academic excellence of this program has been met through the completion of this review and working to improve the courses offered through assessment of student learning and making modifications as needed to continue improvement.
* Responsiveness: Addressed the changes for Computer Science by updating this program to meet the KBOR articulation agreement, which meets the program requirements for all the Kansas universities.
* Diversity/Enrichment: Students are exposed to International issues with Computer Science and exposed to the difference between policies of other countries. Students are also informed of the male/female career ratio unbalance.

The following are HLC goals that are being addressed in this review:
Core Components

3. A. The institution’s degree programs are appropriate to higher education.

Category 1: Courses and programs are current and require levels of performance by students appropriate to the degree or certificate awarded.

* This program meets this core component by offering the first two years of a 4-year degree.

Category 2: Maintain current levels of support/continuous improvements. This program should be continued as presented. Computer Science is a degree that offers several possibilities for students entering many different computer related fields for transfer.

Earning an associate degree in computer science can prepare students for entry-level employment or further education. While students can learn the basics of computer languages, troubleshooting, programming and design on their own, many employers prefer to interview and hire formally trained applicants.

#  8.0 Fiscal Resource Requests/Adjustments

8.1 Budget Requests/Adjustments

Based on program data review, planning and development for student success, program faculty will complete and attach the budget worksheets to identify proposed resource needs and adjustments. These worksheets will be available through request from the college’s Chief Financial Officer.  Program faculty should explicitly state their needs/desires along with the financial amount required.

Programs should include some or all of the following, as applicable, in their annual budget proposals:

* Budget Projections (personnel and operation)
* Position Change Requests
* Educational Technology Support
* Instructional Technology Requests
* Facilities/Remodeling Requests
* Capital Equipment
* Non-Capital Furniture & Equipment
* New Capital Furniture & Equipment
* Replacement Capital Furniture & Equipment
* Other, as applicable
* Accreditation Fee Request
* Membership Fee Request
* Coordinating Reports

 Resource requests should follow budgeting guidelines as approved by the Board of Trustees for each fiscal year. The resource requests should be used to provide summary and detailed information to the division Dean and other decision-makers and to inform financial decisions made throughout the year.

### Narrative:

Budget requests are as follows:

1. Provide $2,000 in instructional supplies to Microcomputer Supplies. This can help defray costs associated with materials/supplies for the hands-on projects for classes.

2. Provide funding for faculty to continue education and attend conferences, for example the annual iTRAC Teaching & Learning conference, Wichita, $30; ACTE Conferences $565 plus travel and hotel, attendance centers vary, (however these at times land on or just before finals week in the fall); The Teaching Professor Annual Conference, $699 plus travel and hotel (usually the first of June each year).

3. Remove the carpet in AC108 as the carpet in the lab is very worn and has holes in several spots. It does not look nice when giving tours to prospective students and their parents. Removing the carpet and replacing it with a product that has a high traffic tolerability that will last much longer than carpeting. Like that placed in AC107. There is also carpeting in AC106 that is newer, so it doesn’t need to be replaced until it shows wear.

4. Replacement chairs in two of the three computer labs ($60-$80 each, 24+17=65, in total about $3,900-5,200).

5. Laptops with higher bandwidth need to replace the ones that are currently being used in AC107 for computer classes and other classes when not in use by computer classes. This is an issue that our IT department is aware of and the current laptops will be placed in service elsewhere on campus.

# 9.0 Program Planning and Development Participation

9.1 Faculty and Staff

Program faculty will provide a brief narrative of how faculty and staff participated in the program review, planning and development process. List the preparer(s) by name(s).

### Narrative:

This program review was written by Tamara Blaes. The data for student information on enrollment and completion rates was provided by the Institutional Research office, Anita Chappuie.

9.2 VPAA and/or Administrative Designee Response

After review and reflection of the *Comprehensive Program Review* or the *Annual Program Review*, the Division Chair and VPAA will write a summary of their response to the evidence provided. The Division Chair and VPAA’s response will be available to programs for review and discussion prior to beginning the next annual planning and development cycle.

### Narrative:

As a Program Review Committee member I agree with the finding in this report.

Tonda Lawrence.

The Comprehensive Program Review for the Associate of Science in Computer Science is detailed, and I agree with the findings and results put forward. The program is viable, and ICC should explore ways to help grow the enrollment for a program in the ICC portfolio. Mark Allen, VPAA, 4/2002020

# 10.0 Appendices

Any additional information that the programs would like to provide may be included in this section.

Appendix A: Assessment data summaries for Computer Science courses.

Assessment Report for ***Computer Concepts & Applications CIT1003***

Term: Fall 2019

Summary Table

|  |  |  |
| --- | --- | --- |
| Learning Outcome  | Met/    Partially Met/ Not Met  | Summary of Future  Planned Action(s)  |
| 1. Identify the specifications and configurations of computer hardware.   |   Met  | We have transitioned to a new type of software, Cirrus, being used in our CCA classes. This was a slow learning curve this semester and we have several tweaks that have been made and still need to be made.  |
| 2. Identify the role of an operating system.   |  Met  | Jjjjn We have transitioned to a new type of software, Cirrus, being used in our CCA classes. This was a slow learning curve this semester and we have several tweaks that have been made and still need to be made.  |
| 3. Use the Internet to find information and determine its credibility.   |  Met   | We have transitioned to a new type of software, Cirrus, being used in our CCA classes. This was a slow learning curve this semester and we have several tweaks that have been made and still need to be made.   |
| 4. Use word processing software to create, edit, and produce professional documents.  |  Partially Met   | We have transitioned to a new type of software, Cirrus, being used in our CCA classes. This was a slow learning curve this semester and we have several tweaks that have been made and still need to be made.   |
| 5. Create spreadsheets and charts for problem-solving.  |  Partially Met   | We have transitioned to a new type of software, Cirrus, being used in our CCA classes. This was a slow learning curve this semester and we have several tweaks that have been made and still need to be made.   |
| 6. Utilize a database.  |  Not Met   | We did not have time to thoroughly cover Access this semester.  |
| 7. Use presentation software to create, edit, and produce professional presentations.  |  Partially Met   | We have transitioned to a new type of software, Cirrus, being used in our CCA classes. This was a slow learning curve this semester and we have several tweaks that have been made and still need to be made.   |
| 8. Identify the ethical and social standards of conduct regarding the use of information and technology.  |  Met   | We have transitioned to a new type of software, Cirrus, being used in our CCA classes. This was a slow learning curve this semester and we have several tweaks that have been made and still need to be made.   |
| 9. Identify security threats and solutions.  |  Met   | We have transitioned to a new type of software, Cirrus, being used in our CCA classes. This was a slow learning curve this semester and we have several tweaks that have been made and still need to be made.   |

Learning Outcome #4: Use word processing software to create, edit, and produce professional documents.

Measure #1

|  |  |
| --- | --- |
|  Measure 1 Description   | Students will complete a CIRRUS Word Project Exam that is very similar to one they have completed in all 3 sections. The simulation is not the same, but the application questions are similar. For example, they must know how to change the font size, color, and style.  |
|  Measure 1 Type   | Instructions: *Choose direct if you are collecting data from work the students have done and turned in (ex- test questions, homework assignments) and select indirect if this comes from your observations of students (ex- participation in class discussions)*

|  |  |  |
| --- | --- | --- |
|   |   | Direct  |
|   |   | Indirect  |

  |
|  Measure 1 Target Goal   | 70% of students will complete Word S1-3 Project Exam 1 in Cirrus with 70% accuracy.   |
|  Measure 1 Results   | *107 of the 117 (91.5%) students enrolled completed the assignment with higher than 70% (91.9%) accuracy. 91 students scored 100%, 11 students scored between 90-99%, 5 students scored between 80-89%, and 6 did not complete the assignment or scored a 0. Of the 6 who scored 0, 1 had stopped attending class and 1 other withdrew from class.*   |

Summary of Learning Outcome #4:

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  This outcome was:   |

|  |  |  |
| --- | --- | --- |
|   |   | Met  |
|   |   | Partially Met  |
|   |   | Not Met  |

  |
|  Findings   | Instructions: *Provide a few sentences of context as to what you learned from reviewing data for this learning outcome.*      |
|  Further Action   |

|  |  |  |
| --- | --- | --- |
|   |   | Further Action Planned  |
|   |   | Further Action Unnecessary  |

 If further action is planned, provide details here:      |
|  Strengths?      | Our computers were updated this year, so we changed the way in which we setup the class. Students had to be in class on the day of the project. If they were going to be absent, they needed to decide to make up the exam.  |
|  Weaknesses?     | The new computers presented a few challenges this semester that we think we have worked out. We will see next semester. They are zero client computers so using SNAP had a few complications.   |
|  Additional Comments:       |   |

Learning Outcome #5: Create spreadsheets and charts for problem-solving.

Measure #1

|  |  |
| --- | --- |
|  Measure 1 Description   | Students will complete a SNAP Excel Project that is very similar to one they have completed earlier in the week. The simulation is not the same, but the application questions are the same. For example, they must know how to change the font size, color, and style in Excel.  |
|  Measure 1 Type   | Instructions: *Choose direct if you are collecting data from work the students have done and turned in (ex- test questions, homework assignments) and select indirect if this comes from your observations of students (ex- participation in class discussions)*

|  |  |  |
| --- | --- | --- |
|   |   | Direct  |
|   |   | Indirect  |

  |
|  Measure 1 Target Goal   | 70% of students will complete Excel Section 3 Exercise 1 Exam in SNAP with 70% accuracy.   |
|  Measure 1 Results   | *94 of the 117 (80.3%) students enrolled completed the assignment with higher than 70% (76.1%) accuracy. 72 students scored 100%, 11 students scored between 90-99%, 4 students scored between 80-89%, 1 student scored 78%, 1 student scored 61%, 1 student scored 11%, and 23 did not complete the assignment or scored a 0. Of the 23 who scored 0, 1 had stopped attending class and 1 other withdrew from class.*   |

Summary of Learning Outcome #5:

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  This outcome was:   |

|  |  |  |
| --- | --- | --- |
|   |   | Met  |
|   |   | Partially Met  |
|   |   | Not Met  |

  |
|  Findings   | Instructions: *Provide a few sentences of context as to what you learned from reviewing data for this learning outcome.*      |
|  Further Action   |

|  |  |  |
| --- | --- | --- |
|   |   | Further Action Planned  |
|   |   | Further Action Unnecessary  |

 If further action is planned, provide details here:      |
|  Strengths?      | Our computers were updated this year, so we changed the way in which we setup the class. Students had to be in class on the day of the project. If they were going to be absent, they needed to decide to make up the exam.  |
|  Weaknesses?     | The new computers presented a few challenges this semester that we think we have worked out. We will see next semester. They are zero client computers so using SNAP had a few complications.   |
|  Additional Comments:       |   |

Learning Outcome #6: Utilize a database.

Measure #1

|  |  |
| --- | --- |
|  Measure 1 Description   | Students will complete a SNAP Access Project that is very similar to one they have completed earlier in the week. The simulation is not the same, but the application questions are the same. For example, they must know how to change the font size, color, and style in an Access Database.  |
|  Measure 1 Type   | Instructions: *Choose direct if you are collecting data from work the students have done and turned in (ex- test questions, homework assignments) and select indirect if this comes from your observations of students (ex- participation in class discussions)*

|  |  |  |
| --- | --- | --- |
|   |   | Direct  |
|   |   | Indirect  |

  |
|  Measure 1 Target Goal   | 70% of students will complete Access Section 1 Project Exam in SNAP with 70% accuracy.   |
|  Measure 1 Results   | *107 of the 117 (91.5%) students enrolled completed the assignment with higher than 70% (76.1%) accuracy. 63 students scored 100%, 7 students scored between 90-99%, 7 students scored between 80-89%, 2 students scored 75%, 11 students scored between 60-69%, 17 students scored below 60% and 10 did not complete the assignment or scored a 0. Of the 10 who scored 0, 1 had stopped attending class and 1 other withdrew from class.*   |

Summary of Learning Outcome #6:

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  This outcome was:   |

|  |  |  |
| --- | --- | --- |
|   |   | Met  |
|   |   | Partially Met  |
|   |   | Not Met  |

  |
|  Findings   | Instructions: *Provide a few sentences of context as to what you learned from reviewing data for this learning outcome.*      |
|  Further Action   |

|  |  |  |
| --- | --- | --- |
|   |   | Further Action Planned  |
|   |   | Further Action Unnecessary  |

 If further action is planned, provide details here:      |
|  Strengths?      | Our computers were updated this year, so we changed the way in which we setup the class. Students had to be in class on the day of the project. If they were going to be absent, they needed to decide to make up the exam.  |
|  Weaknesses?     | The new computers presented a few challenges this semester that we think we have worked out. We will see next semester. They are zero client computers so using SNAP had a few complications.   |
|  Additional Comments:       |   |

Assessment Report for***Animation & Multimedia CIT1043***

Term: Fall 2019

Summary Table

|  |  |  |
| --- | --- | --- |
| Learning Outcome  | Met/    Partially Met/ Not Met  | Summary of Future  Planned Action(s)  |
| 1. **Identify, design and develop appropriate assets for the creation of a functional user interface using an appropriate navigational structure.**  |  Met   |  None  |
| 2. **Implement a range of special effects which are commonly required for interactive design in multimedia applications (animation, visual and audio feedback, etc.).**  |   Met  |  None  |
| 3. **Design/Develop a functional interactive project given a specific brief using a graphical authoring environment.**  |   Met  |  None  |
| 4. **Identify and apply the formal processes needed for preparing and documenting the design specification and prototype development stages of a multimedia application.**  |    Met  |  None  |
| 5. **Identify and interpret the nature of technical issues that are encountered during the development and testing of a multimedia application.**  |   Met  |  None  |

Learning Outcome #1: **Identify, design and develop appropriate assets for the creation of a functional user interface using an appropriate navigational structure.**

Measure #1

|  |  |
| --- | --- |
|  Measure 1 Description   | The students could choose any of the animations software and create a short animation clip that is navigational.  |
|  Measure 1 Type   | Instructions: *Choose direct if you are collecting data from work the students have done and turned in (ex- test questions, homework assignments) and select indirect if this comes from your observations of students (ex- participation in class discussions)*

|  |  |  |
| --- | --- | --- |
|   |   | Direct  |
|   |   | Indirect  |

  |
|  Measure 1 Target Goal   | Students will design a functional interactive project using any of the software learned in this course with 70% accuracy.   |
|  Measure 1 Results   | All 7 of 8 of the students in the class completed the project with 85% accuracy.   |

Summary of Learning Outcome #1:

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  This outcome was:   |

|  |  |  |
| --- | --- | --- |
|   |   | Met  |
|   |   | Partially Met  |
|   |   | Not Met  |

  |
|  Findings   | I would continue to do this class the same way in hopes there will be even greater enrollment with continued motivation the next fall when it is offered again.      |
|  Further Action   |

|  |  |  |
| --- | --- | --- |
|   |   | Further Action Planned  |
|   |   | Further Action Unnecessary  |

 If further action is planned, provide details here:      |
|  Strengths?      | This is a project that allows students creative flexibility. They can use all the resources they have learned throughout the semester to this point.  |
|  Weaknesses?     | Only motivation and attendance.  |
|  Additional Comments:       | This is a great project to evaluate learning of animation techniques.   |

Learning Outcome #2: **Implement a range of special effects which are commonly required for interactive design in multimedia applications (animation, visual and audio feedback, etc.).**

Measure #1

|  |  |
| --- | --- |
|  Measure 1 Description   | The students could choose any of the animations software and create a short animation clip that has audio and video.  |
|  Measure 1 Type   | Instructions: *Choose direct if you are collecting data from work the students have done and turned in (ex- test questions, homework assignments) and select indirect if this comes from your observations of students (ex- participation in class discussions)*

|  |  |  |
| --- | --- | --- |
|   |   | Direct  |
|   |   | Indirect  |

  |
|  Measure 1 Target Goal   | Students will design a functional interactive project using any of the software learned in this course with 70% accuracy.   |
|  Measure 1 Results   | 7 of the 8 students in the class completed the project with 85% accuracy.  |

Summary of Learning Outcome #2:

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  This outcome was:   |

|  |  |  |
| --- | --- | --- |
|   |   | Met  |
|   |   | Partially Met  |
|   |   | Not Met  |

  |
|  Findings   | I would continue to do this class the same way in hopes there will be even greater enrollment with higher motivation the next fall when it is offered again.      |
|  Further Action   |

|  |  |  |
| --- | --- | --- |
|   |   | Further Action Planned  |
|   |   | Further Action Unnecessary  |

 If further action is planned, provide details here:      |
|  Strengths?      | This is a project that allows students creative flexibility. They can use all the resources they have learned throughout the semester to this point.  |
|  Weaknesses?     | Only motivation and attendance.  |
|  Additional Comments:       | This is a great project to evaluate learning of techniques through the semester.   |

Learning Outcome #3: **Design/Develop a functional interactive project given a specific brief using a graphical authoring environment.**

Measure #1

|  |  |
| --- | --- |
|  Measure 1 Description   | The students could choose any of the software applications they learned this semester to create an animated GIF.  |
|  Measure 1 Type   | Instructions: *Choose direct if you are collecting data from work the students have done and turned in (ex- test questions, homework assignments) and select indirect if this comes from your observations of students (ex- participation in class discussions)*

|  |  |  |
| --- | --- | --- |
|   |   | Direct  |
|   |   | Indirect  |

  |
|  Measure 1 Target Goal   | Students will design a functional interactive project using any of the software learned in this course with 70% accuracy.   |
|  Measure 1 Results   | 7of the 8 students in the class completed the project with 85% accuracy.  |

Summary of Learning Outcome #3:

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  This outcome was:   |

|  |  |  |
| --- | --- | --- |
|   |   | Met  |
|   |   | Partially Met  |
|   |   | Not Met  |

  |
|  Findings   | I would continue to do this class the same way in hopes there will be greater enrollment and higher motivation the next time it is offered.      |
|  Further Action   |

|  |  |  |
| --- | --- | --- |
|   |   | Further Action Planned  |
|   |   | Further Action Unnecessary  |

 If further action is planned, provide details here:      |
|  Strengths?      | This is a project that allows students creative flexibility. They can use all the resources they have learned throughout the semester.  |
|  Weaknesses?     | Only motivation and attendance.  |
|  Additional Comments:       | This is a great project to evaluate learning of techniques through the semester up to this point.  |

Learning Outcome #4: **Identify and apply the formal processes needed for preparing and documenting the design specification and prototype development stages of a multimedia application.**

Measure #1

|  |  |
| --- | --- |
|  Measure 1 Description   | The students will develop a process of creating a multimedia design project.  |
|  Measure 1 Type   | Instructions: *Choose direct if you are collecting data from work the students have done and turned in (ex- test questions, homework assignments) and select indirect if this comes from your observations of students (ex- participation in class discussions)*

|  |  |  |
| --- | --- | --- |
|   |   | Direct  |
|   |   | Indirect  |

  |
|  Measure 1 Target Goal   | Students will design a functional interactive project using any of the software learned in this course with 70% accuracy.   |
|  Measure 1 Results   | All the students in the class completed the project with 85% accuracy.  |

Summary of Learning Outcome #4:

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  This outcome was:   |

|  |  |  |
| --- | --- | --- |
|   |   | Met  |
|   |   | Partially Met  |
|   |   | Not Met  |

  |
|  Findings   | I would continue to do this class the same way in hopes there will be even greater enrollment with higher motivation the next fall it is offered again.      |
|  Further Action   |

|  |  |  |
| --- | --- | --- |
|   |   | Further Action Planned  |
|   |   | Further Action Unnecessary  |

 If further action is planned, provide details here:      |
|  Strengths?      | This is a project that allows students creative flexibility. They can use all the resources they have learned throughout the semester up to this point.  |
|  Weaknesses?     | Only motivation and attendance.  |
|  Additional Comments:       | This is a great project to evaluate learning of techniques through the semester to this point.  |

Learning Outcome #5: **Identify and interpret the nature of technical issues that are encountered during the development and testing of a multimedia application.**

Measure #1

|  |  |
| --- | --- |
|  Measure 1 Description   | The students learn to notice and fix any issues that arise in their multimedia projects throughout the semester.  |
|  Measure 1 Type   | Instructions: *Choose direct if you are collecting data from work the students have done and turned in (ex- test questions, homework assignments) and select indirect if this comes from your observations of students (ex- participation in class discussions)*

|  |  |  |
| --- | --- | --- |
|   |   | Direct  |
|   |   | Indirect  |

  |
|  Measure 1 Target Goal   | Students will design a functional interactive project using any of the software learned in this course with 70% accuracy.   |
|  Measure 1 Results   | 7 of the 8 students in the class completed the project with 85% accuracy.  |

Summary of Learning Outcome #5:

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  This outcome was:   |

|  |  |  |
| --- | --- | --- |
|   |   | Met  |
|   |   | Partially Met  |
|   |   | Not Met  |

  |
|  Findings   | I would continue to do this class the same way in hopes there will be even greater enrollment with higher motivation the next fall when it is offered again.      |
|  Further Action   |

|  |  |  |
| --- | --- | --- |
|   |   | Further Action Planned  |
|   |   | Further Action Unnecessary  |

 If further action is planned, provide details here:      |
|  Strengths?      | This is an invaluable tool that if students can learn early and adapt & apply in all their classes can become very useful.  |
|  Weaknesses?     | Only motivation and attendance.  |
|  Additional Comments:       |   |