

HAWAII COMMUNITY COLLEGE COMPREHENSIVE PROGRAM REVIEW REPORT

Information Technology Program

November 15, 2010

Assessment Period: July 1, 2007 to June 30, 2010

Initiator: Robert Yamane

**Writer(s): Annie Brown, Associate Professor (Program
Coordinator)**

Program Review at Hawai'i Community College is a shared governance responsibility related to strategic planning and quality assurance. It is an important planning tool for the college budget process. Achievement of Student Learning Outcomes is embedded in this ongoing systematic assessment. Reviewed by a college wide process, the Program Reviews are available to the college and community at large to enhance communication and public accountability.

**HAWAII COMMUNITY COLLEGE
PROGRAM NAME**

A. Program Effectiveness

1. The Information Technology (IT) Program's Mission is to assist students to learn and develop skills, competencies, and values required by employers and necessary to become contributing members of a technological society. The IT program directly supports three of the college's imperatives: workforce development, community development and technology. The program provides students with the skills necessary for success in the business environment, the ability to work with others and to use teamwork in achieving workplace and community goals. The IT program focuses on teaching technological skills enabling students to find jobs and advance the general ability level of the Hawaii workforce to handle the ever-changing environment caused by technological advances.
2. One concern raised in the previous review was a need to increase our number of majors. As a result, after careful study of the possible impact on the major, the mathematics prerequisite of our introduction course (ICS101) was changed, from Math 25 or Math 26 or placement in Math 100 to completion of Math 24, or placement in Math 26 beginning in Fall 2010. It is believed that this will result in an increase in our major count in the coming years.

In order to service more students in HawCC, the mathematics prerequisite of ICS100 was changed, from Math 50 or Math 24 or placement in Math 26 to "C" or better in Math 1ABCD or placement in Math 50 or Math 22 beginning in Fall 2010. Also, beginning in Fall 2007 ICS 100 now is an elective for fulfilling the Social Science General Education requirement for the AS and AAS degree; this has helped to increase the number of students served by the IT program.

In Spring 2009 we introduced a new course that covers UNIX/Linux, upon the advice of our Program Advisory Council. We also continuously update all of our courses to keep up with the ever changing field of IT.

3. Program Strengths and Weaknesses: The IT Program is a high quality program, with great success rates for its graduates in obtaining high level positions in the workforce. Students learn numerous technical skills and also learn how to behave professionally in a business environment, how to work successfully in teams, and how to learn on their own to update their skills in the rapidly advancing field of IT. The Program's weaknesses are a difficulty in recruiting large numbers of students who are prepared for the intensive nature of the program, and a difficulty in graduating majors within a 2-3 year period, particularly given the need for many students to work while doing their studies.

a. **Analysis of Data: (Table 5)** The official data presented on the IT Program by the IRO is, unfortunately, incorrect, as it lists zero faculty for the Program in 2009-10, and a clearly inaccurate budget allocation for the program for that year, a figure over twice the amount for the previous year, when two faculty were in the program. The rating of “unhealthy” for Efficiency Indicators is therefore probably incorrect. Until the data are corrected, it is impossible to properly analyze the quantitative indicators. In the Efficiency Indicators category, however, there is evidence for a continual increase in average class size, from 8.3 to 8.9 to 9.7, and an increase in fill rate, from 42% to 45% to 49% in the years 2007-08 through 2009-10. Under Demand Indicators, there has been an increase in available positions for IT personnel in the County and State, despite the economic turndown. The number of majors has been fairly steady, with 29 in 2007-08, followed by 33 and then 31 in the following years. The data do show that SSH in all Program classes has increased markedly, from 194 in 2007-08 to 424 in 2008-09 and 499 in 2009-10, with a shift to more students who are non-majors in the classes. The number of majors in 2009-10 was 31 with only one faculty member, yielding a majors to faculty ratio of 31.0, considerably higher than the ratio of 16.5 majors per faculty the previous year, and 14.5 majors/faculty in 2007-08. Under Effectiveness Indicators, there was an increase in successful completion of courses from 72% to 83% and fewer withdrawals from 2008-09 to 2009-10, but the persistence dropped somewhat, from 72% to 74% to 64%. There is clear evidence for increases in class size, and a fairly steady number of majors in the three year period. The program still would be helped by an increase in student numbers, and in better retention. The Table summarizes data for the IT program from the past three years, showing number of majors, SSHs, and numbers of graduates (data from system IRO Office):

	2007-08	2008-09	2009-10
Student SSH	412	424	499
# IT Majors	29	33	31
# IT Graduates (AS/certificates)	6/0	8/0	6/1

As can be seen in the table, there is a trend for increasing SSH, while other program indicators are fairly steady.

b. **Program Learning Objectives:** Appendix A contains the Assessment Plan for Learning Outcomes for the IT Program. Evaluation of the Program’s Learning Objectives (PLOs) by an external team has been carried out four times in the assessment period, specifically in Fall 2008, Spring 2009, Fall 2009 and Spring 2010. Reviewers evaluated the PLOs for

a sample of students regarding four characteristics, namely “Specifications,” “Modular Design,” “Readability,” and “Documentation.” In Fall 2008, of 18 evaluations from two different courses, 17 listed students as meeting or exceeding expectations for all characteristics. In Spring 2009, all six evaluations listed the students as meeting expectations in all characteristics, with 4 stating that students exceeded expectations for all characteristics. In Fall 2009, two IT courses were assessed separately; for ICS 101, an introductory course, of 39 evaluations, 75% rated the students as meeting or exceeding expectations; for ITS 218, a second year course, all 18 evaluations listed the students as meeting or exceeding expectations. It is noteworthy that students showed improvement in the evaluations as they went through the Program’s training, showing that their skills improve, and thus achieve the program’s goals for them. In Spring 2010, 99% of evaluations of students listed them as meeting or exceeding expectations on all characteristics, while 100% of evaluations listed students as meeting or exceeding PLOs. In sum, the assessment shows that the IT Program has had great success in meeting Program Learning Objectives for its students.

- c. The IT Program benefits from strong community support, particularly from the IT Program Advisory Council. While the number of IT graduates has not been large, they have been successful. Once they graduate, the majority of our program graduates have obtained employment and most of them in the field of Information Technology. For those who are already employed, they most often begin to move up from entry level jobs into supervisory positions within a few years. Our graduates (within this review period) include the IT Manager of Suisan Co.; IT Specialist in charge of the network and computers systems for the County of Hawaii, the Imiloa Observatory, Hospice of Hilo, and Aha Punana Leo to name a few. These graduates are involved in government, private industry, and in community groups including those dedicated to education of Native Hawaiians. One of our graduates has a standing offer of employment from Google, Inc. He is guaranteed a job once he obtains his 4 year degree.

The Program Coordinator, Annie Brown, wrote a letter of support for the grant proposal for the Beacon Community Grant that was awarded to the university for \$16 million, with the goal of improving health care in the county by enhancing medical IT systems. There are possibilities for the students in the IT Program to become involved in the Beacon grant activities. We are in the formative stages of planning a Health IT certificate of completion within the IT Program.

Program Strengths and Weaknesses

Strength #1: High success rate of graduates in workforce

Strength #2: Great satisfaction with student interns by local businesses

Strength #3: Provides critical computer skills classes for the BEAT Division and the community.

Weakness #1: Low graduation numbers

Weakness #2: Relatively small class sizes for some courses

Weakness #3: Lack of sufficient number of faculty to appropriately cover all of the programs courses, and also recruit new students and develop new initiatives, such as 2 + 2 programs.

4. In the last Comprehensive Program Review, the following goals were set:
 - a. Develop a certificate of completion for IT. This was successfully completed, and there is now such a certificate program for IT students.
 - b. Look into the possibility of offering more IT service courses including the addition of a computing literacy course for the AA liberal arts students. The goal to create a computing literacy course for the AA liberal arts students is ongoing, but complicated by our established system wide articulated ICS101 course. The IT Program intends to modify this course to be used as a general computing literacy course for the AA liberal arts students. However, ICS101 which is articulated system-wide, is only considered as an elective throughout the community college system, whereas, it is classified as a Natural Science elective at UH-Hilo. Hopefully, clarification and guidance regarding curriculum issues will be provided after VP Morton 's system-wide IT Summit in January 2011.
 - c. Review similarities and differences in technical programs on campus to reduce duplication. This is a continuous process.
 - d. Investigate a campus pilot program for electronic portfolios. The IT students were prepared and had setup their electronic portfolios and were waiting for the college to provide a central hosting server. The IT faculty attended several meetings and a presentation by Kapiolani CC showing their electronic portfolios management software. Somehow the Hawaii CC initiative for this program fizzled. It should not be difficult for the IT program to revive our support of this program when Hawaii CC is ready for it.

5. The top 3 goals/plans for the next Comprehensive Review period are:
 - a. To fill the IT faculty position left vacant by the retirement of an IT faculty.

Our IT program consists of 12 ICS/ITS courses with a total of 42 credits. At present, the maximum load for a full time faculty is 27 credits per school year. That leaves 15 credits unaccounted for. At present, with a minimum of 31 IT majors, we are not able to sustain the program with only one full time faculty. Also, the change in the math prerequisites for the IT Program, initiated in Fall 2010, is likely to lead to an increase in the number of majors as well as non-majors taking IT courses.
 - b. To initiate a new Certificate of Completion in the Health IT field in support of the Beacon Grant awarded to the University of Hawaii. This is a great opportunity for our college and our IT students to be involved with the community. Also, the health industry is one of the most rapidly expanding areas for employment, and IT personnel will continue to be in great demand in this area.
 - c. On-going goals:

- Continue to work with our community partners to provide learning and job opportunity for our students.
- Continue to track the movement, and success, of our graduates.
- Continue to work closely with our Program Advisory Council for guidance and support.
- Continue to work closely with our system-wide IT colleagues.

B. Action Plan for Program Improvement:

Table 1—Prioritized Top 3 Non-Cost Items

***Strengths/Weaknesses are numbered (S1, S2, S3; W1, W2, W3) and taken from A.3**

Task:	Academic yr.	Who is responsible	Justifications	
			How does it improve program effectiveness?	Addresses which strength or weakness*
1. Develop a Health IT certificate of completion	2011-13	Program Coord.	Increases number of students taking IT classes; increases job opportunities for IT students	S1, S3, W2
2. Establish IT lab in Building 346	2011-13	Program Coord.	Permits IT students to get hands-on experience with computer operations	W1
3. Work with IT colleagues throughout the System to improve articulation	2010-2013	Program Faculty	Allows students to transfer seamlessly to other CCs and through 2+2 programs	S1, W1

Table 2 —Prioritized Top 3 Cost Items (“G” funded requests only)

*Budget Categories: P=Personnel; S1x=Program Review Special Fund; SE=Supplies Enhanced; Eq=Equipment (>= \$5K)

**Strategic Outcomes Goals and Performance Measures are: A1.1, B4., C1., D3., E2., etc.

Priority	\$ amount & budget category* Except R/M	Justifications		If currently grant funded, please explain: put date when funding ends and indicate HawCC commitment to support, if any
		Best fits which Strategic Outcomes Goal and Performance Measure(s)** and how?	Addresses which strength or weakness?	
1.Hire 1 FTE faculty	\$52k, P	Goal A: Promote Learning and Teaching for Student Success – by being able to offer all required courses for students to graduate on time; Goal C: Promote Workforce and Economic Development – by providing courses students need to obtain IT jobs in the workforce; Goal D: Develop Our Human Resources – by allowing the Program Coordinator time to address recruitment and retention issues.	W3	N/A
2. Replace instructional computers (21 for student use in general IT courses, 12 used for students to create networks and other special uses)	33 @ \$1000=\$33 K	Goal E: Develop Infrastructure to Support Learning – by providing IT students with up-to-date equipment to learn current IT information and skills.	S3	N/A
3. Continue subscription to MSDN* Academic Alliance Program	\$400/yr	Goal E: Develop Infrastructure to Support Learning – by providing IT students with up-to-date equipment to learn current IT information and skills	S1, S2	N/A

*The Microsoft Development Network Academic Alliance Program, in which the BEaT Division participates, is designed to make it easier and less expensive for academic and laboratory programs to get Microsoft developer tools, platforms, and servers for instructional and research purposes.

Table 3.--Repair and Maintenance

Nature of Problem	Describe Location: e.g. Building(s) & Room(s)
Supplies to maintain computers @ \$1000/yr	Building 346, Room 136
Peripherals (scanner, cables, tools etc.) @ \$1000/yr	Building 346, Room 136

Table 4—Equipment Depreciation, if applicable

Key to abbreviations:

CP=Controlled Property w/item value \$1K-\$5K

E=equipment w/item value >\$5K

Program Assigned Equipment (E) and Controlled Property (CP) (List in order of chronological depreciation date)	Category: CP or E	Expected Depreciation Date	Estimated Replacement Cost
N/A			
N/A			

C. Table 5—Data Elements

Annual Report of Program Data for Information Technology
Hawaii Community College Program Major(s): IT

Overall Program Health					Cautionary
Demand Indicators					Demand Health Healthy
		Academic Year			
		Fall 07	08-09	09-10	
1	New & Replacement Positions (State)	79	182	183	
2	New & Replacement Positions (County Prorated)	6	7	12	
3	Number of Majors	29	33	31	
4	SSH Program Majors in Program Classes	131	341	275	
5	SSH Non-Majors in Program Classes	63	83	224	
6	SSH in All Program Classes	194	424	499	
7	FTE Enrollment in Program Classes	13	14	17	
8	Total Number of Classes Taught	6	13	14	
Efficiency Indicators					Efficiency Health Unhealthy
		Academic Year			
		Fall 07	08-09	09-10	
9	Average Class Size	8.3	8.9	9.7	
10	Fill Rate	42%	45%	49%	
11	FTE BOR Appointed Faculty	0.0	2.0	0.0	
12	Majors to FTE BOR Appointed Faculty	0.0	16.5	0.0	
13	Majors to Analytic FTE Faculty	19.0	20.3	17.2	
13a	Analytic FTE Faculty	1.6	1.6	1.8	
14	Overall Program Budget Allocation	\$76,102	\$83,019	\$193,790	
14a	General Funded Budget Allocation	n/a	\$83,019	\$193,790	
14b	Special/Federal Budget Allocation	n/a	\$0	\$0	
15	Cost per SSH	\$392.28	\$195.80	\$388	
16	Number of Low-Enrolled (<10) Classes	4	8	9	
Effectiveness Indicators					Effectiveness
		Academic Year			
		2007	08-09	09-10	
17	Successful Completion (Equivalent C or Higher)	n/a	72%	83%	
18	Withdrawals (Grade = W)	n/a	7	3	
19	Persistence (Fall to Spring)	72%	74%	64%	
20	Unduplicated Degrees/Certificates Awarded	n/a	8	6	

					Health
20a	Number of Degrees Awarded	6	8	6	Cautionary
20b	Certificates of Achievement Awarded	0	0	1	
20c	Academic Subject Certificates Awarded	n/a	0	0	
20d	Other Certificates Awarded	n/a	0	0	
21	Transfers to UH 4-yr	2	0	2	
21a	Transfers with degree from program	n/a	0	0	
21b	Transfers without degree from program	n/a	0	2	

C/P denotes that the measure is provided by the college, if necessary.

Distance Education Completely On-line Classes		Academic Year		
		Fall 07	08-09	09-10
22	Number of Distance Education Classes Taught	n/a	0	0
23	Enrollment Distance Education Classes	n/a	0	0
24	Fill Rate	n/a	0%	0%
25	Successful Completion (Equivalent C or Higher)	n/a	0	0%
26	Withdrawals (Grade = W)	n/a	0	0
27	Persistence (Fall to Spring Not Limited to Distance Education)	n/a	0%	0%
Perkins IV Core Indicators				
Perkins IV Measures 2008-2009		Goal	Actual	Met
28	1P1 Technical Skills Attainment	90.00	100.00	Met
29	2P1 Completion	44.00	33.33	Did Not
30	3P1 Student Retention or Transfer	55.00	68.42	Met
31	4P1 Student Placement	50.00	62.50	Met
32	5P1 Nontraditional Participation	N/A	N/A	N/A
33	5P2 Nontraditional Completion	N/A	N/A	N/A

Appendix A
Learning Outcomes Assessment Results

Information Technology Program

Student Learning Outcomes (program level)

1. **Information Systems:** Plan, develop, and implement the hardware, software, and procedural components of a data processing system in a business environment.
2. **Networking:** Plan, develop, and implement the hardware, software, and procedural components of a data communications system in a business environment.
3. **Programming:** Plan, develop, implement, and document computer programs that meet the data processing requirements of a business organization.
4. **Productivity:** Work independently and cooperatively to deliver reports, programs, projects, and other deliverables that document a business organization's information technology requirements.
5. **Legal/Ethical/Professional:** Base decisions and actions on the legal, ethical, and professional guidelines and practices of the information technology field.
6. **Explore:** Demonstrate the ability to search, analyze, and synthesize current information and solutions in the rapidly changing information technology profession.

Matrix of Student Learning Outcomes (program level) by Course

Course	SLO 1	SLO 2	SLO 3	SLO 4	SLO 5	SLO 6
ICS 101	X			X		X
ITS 103			X	X		
ITS 104	X	X		X		
ITS 108	X	X		X		
ITS 118			X	X		
ITS 121	X			X		
ITS 151			X	X		
ITS 193	X	X	X	X	X	X
ITS 215		X		X		
ITS 218	X			X	X	X
ITS 221	X			X	X	X
ITS 284		X		X		X

Artifacts for Assessment by SLO (program level), Course(s), and Deliverables

SLO	Course(s)		Deliverables
	Fall	Spring	
1	ICS 101 ITS 104 ITS 218	ICS 101 ITS 108 ITS 121 ITS 221	Selected assignments – one from each 1/3 of the semester. i.e. 1 st , 2 nd , and 3 rd five week period.
		ITS 193	Daily Job Log, Program Completion Report, and Supervisor's(s') Evaluation(s).
2	ITS 104 ITS 215	ITS 108 ITS 284	Selected assignments – one from each 1/3 of the semester. i.e. 1 st , 2 nd , and 3 rd five week period.
		ITS 193	Daily Job Log, Program Completion Report, and Supervisor's(s') Evaluation(s).
3	ITS 103 ITS 151	ITS 118	Selected assignments – one from each 1/3 of the semester. i.e. 1 st , 2 nd , and 3 rd five week period.
		ITS 193	Daily Job Log, Program Completion Report, and Supervisor's(s') Evaluation(s).
4	ICS 101 ITS 103 ITS 104 ITS 121 ITS 151 ITS 215	ICS 101 ITS 108 ITS 118	Individual assignments – one from each 1/3 of the semester. i.e. 1 st , 2 nd , and 3 rd five week period.
		ITS 193	Daily Job Log, Program Completion Report, and Supervisor's(s') Evaluation(s).
	ITS 218	ITS 221 ITS 284	Group assignments – one from each 1/3 of the semester. i.e. 1 st , 2 nd , and 3 rd five week period. Peer Evaluations
		ITS 193	Daily Job Log, Program Completion Report, and Supervisor's(s') Evaluation(s).
5	ICS 101 ITS 218	ICS 101	Research paper on Ethics (ICS 101) Chapter 7 – User Support Management (Group Assignment) – current text (ITS 218)
		ITS 221	Chapter 3 – Legal, Ethical, and Professional Issues in Information Society (Group Assignment) – current text
		ITS 193	Daily Job Log, Program Completion Report, and Supervisor's(s') Evaluation(s).
6	ICS 101 ITS 218	ICS 101 ITS 221 ITS 284	Selected assignments – one from each 1/3 of the semester. i.e. 1 st , 2 nd , and 3 rd five week period.
		ITS 193	Daily Job Log, Program Completion Report, and Supervisor's(s') Evaluation(s).

Student Learning Outcomes (program level) to be assessed for each year of the program review cycle. Identify the learning outcomes by number only taken from above.

Fall Semester	Spring Semester
---------------	-----------------

Fall 2008	3	Spring 2009	4
Fall 2009	1	Spring 2010	2
Fall 2010	5	Spring 2011	6

Hawai`i Community College
 Instructional Program Assessment Plan for Learning Outcomes
 Associate in Science (A.S.) Degree – Information Technology
 Submitted by: Annie Brown / Kent Killam, April 30, 2008

Semester: Fall 2008

Student Learning Outcome (program level) for Assessment (taken from Appendix):

3. Programming: Plan, develop, implement, and document computer programs that meet the data processing requirements of a business organization.

Step 1. Identify the artifacts (i.e. student work) for assessment and courses from which selected:

ITS 103	Chapter 3 Assignment – The Program Planning Process: Documentation and Design Chapter 5 Assignment – Looping Chapter 8 Assignment – Control Breaks
ITS 151	Tutorial 4/Project 5 Assignment - Designing Complex Forms Database Tutorial 7/Project 8 Assignment – Using Visual Basic for Applications Tutorial 10/project 9 – Administering a Database System with Web Access

Step 2. Develop the assessment tool (e.g. rubric) to be used with 3 levels of assessment.

Assessment rubrics are attached.

Step 3. Set the Performance Rate

80% of the artifacts assessed by the Assessment Team will meet or exceed expectations.
--

Step 4. Describe the method used to collect the artifacts:

All of the deliverables for the specified assignments will be collected. Copies of all assignments will be made and placed in two envelopes – ITS 103 and ITS 151.
--

Step 5. Describe the sampling method used to collect the data:

If the total number of deliverables is too large for review a subset of each assignment from each course will be determined and selected by the Assessment Team.
--

Step 6. Describe the composition of the Assessment Team (AT):

- | |
|--|
| 1. One faculty member (IT/ICS). Not a member of the IT AS degree program faculty. |
| 2. One former graduate from the IT AS degree program. |
| 3. One advisory board member, or one employee of an advisory board member’s organization, or one employer of IT graduates. |

Step 7. The Assessment Team uses the assessment tool(s) (e.g. rubric) to evaluate the data.

Step 8. The Program will summarize and interpret the results, and determine the implications for program improvement. Note: a summary will be included in the comprehensive program review.

Hawai`i Community College
 Instructional Program Assessment Plan for Learning Outcomes
 Associate in Science (A.S.) Degree – Information Technology
 Submitted by: Annie Brown / Kent Killam, April 30, 2008

Semester: Fall 2008

Student Learning Outcome (program level) for Assessment (taken from Appendix):

3. Programming: Plan, develop, implement, and document computer programs that meet the data processing requirements of a business organization.

ITS 103 Algorithms Rubric			
Characteristic	Exceeds Expectations – Level 3	Meets Expectations – Level 2	Does Not Meet Expectations – 1
Specifications	The algorithm satisfies all of the required specifications and provides the correct output.	The algorithm satisfies most of the specifications and provides correct output.	The algorithm provides incorrect results.
Modular Design	The algorithm follows the principles of good modular design.	The algorithm follows most of the principles of good modular design.	The algorithm does not follow the principles of good modular design.
Readability	The algorithm is well organized and very easy to follow. Excellent naming convention.	The algorithm is fairly easy to follow. Good naming convention.	The algorithm is poorly organized and very difficult to follow.
Documentation	The documentation clearly explains what the algorithm is accomplishing and how.	The documentation consists of only the algorithm in either flowchart or pseudocode.	The documentation is not clear and does not assist in explaining the algorithm.

Hawai`i Community College
 Instructional Program Assessment Plan for Learning Outcomes
 Associate in Science (A.S.) Degree – Information Technology
 Submitted by: Annie Brown / Kent Killam, April 30, 2008

Semester: Fall 2008

Student Learning Outcome (program level) for Assessment (taken from Appendix):

3. Programming: Plan, develop, implement, and document computer programs that meet the data processing requirements of a business organization.

ITS 151 Database Design and Management Rubric			
Characteristic	Exceeds Expectations – Level 3	Meets Expectations – Level 2	Does Not Meet Expectations – 1
Specifications	The database satisfies all of the required specifications and provides the correct output. Forms and reports are easy to interrupt and to understand.	The database satisfies most of the specifications and provides correct output. Forms and reports are somewhat easy to interrupt and to understand.	The database provides incorrect results. Forms and reports are misleading and hard to understand.
Database and Modular Design	The algorithm follows the principles of good modular design. Switchboards design is structured and well organized.	The algorithm follows most of the principles of good modular design. Switchboards design is somewhat structured and organized.	The algorithm does not follow the principles of good modular design. Switchboards design is not structured and poorly organized.
Readability	The database/tables are well organized and very easy to follow. Excellent naming convention. Forms and reports are user-friendly and intuitive.	The database/tables are fairly easy to follow. Good naming convention. Forms and reports are somewhat user-friendly and intuitive.	The database/tables are poorly organized and very difficult to follow. Forms and reports are not user-friendly and hard to interrupt.
Documentation	The user and technical documentation clearly explain the function and purpose of the database.	The user and technical documentation do not fully explain the function and purpose of the database. Some parts of the database are not documented.	The user and technical documentation are not clear and do not explain the function and purpose of the database. Most parts of the database are not documented.

**Information Technology
 Assessment of Student Learning Outcome Results
 Semester: Fall 2008**

Student Learning Outcome to be Assessed:

PLO #3: Plan, develop, implement, and document computer programs that meet the data processing requirements of a business organization.

Evaluation Team Members:

The evaluation team consisted of three members of the IT Advisory Committee:
James Kiley, Information System Manager, Data Systems Department, County of Hawaii
Lon Taniguchi, IT Manager, KTA Superstores
Shane Vasconcellos, Information Technology Specialist, Imiloa Astronomy Center of Hawaii

Artifact and Sampling Method:

Selected assignments – one from each 1/ 3 of the semester i.e. 1st, 2nd, and 3rd five week period were collected from all the students enrolled in ITS 103 “Introduction to the Programming Process” and ITS 151 “Applied Database Programming in an Object Oriented Environment”.
Evaluators randomly select three assignments from each course for evaluation.

Evaluation of Results:

Evaluators were given an evaluation sheet with three scales: Exceeds Expectations (Level 3), Meets Expectations (Level 2), and Does not Meet Expectations (Level 1) for each of four characteristics, namely: “Specifications,” “Modular Design,” “Readability,” and “Documentation.”
Of the 18 evaluations, 10 (56%) listed all four characteristics as exceeding expectations, 3 (16.5%) listed three characteristics as exceeding expectations and one as meeting expectation, 1 (5.5%) listed two exceeding and two meeting expectations, 3 (16.5%) listed four characteristics as meeting expectations, and 1 (5.5%) listed four as not meeting expectations. A total of 94.5% of the evaluations stated that student outcomes met or exceeded expectations, a strong endorsement of our meeting programmatic goals for this student learning outcome.

Planned Action:

The data presented here cover both first and second year students from two different courses, and thus are an adequate sampling of the program’s student body. The data suggest that the program is meeting its goals of learning outcomes. However, continued improvement is desired. The program will attempt to get more information from any future evaluations that fall below level 2 (meeting expectations) to discover precisely what concerns the evaluator has, and what course changes may help meet these concerns. Evaluation and monitoring will be continued to insure that goals continue to be met.

Submitted by: Annie Brown (September 3, 2009)

Hawai`i Community College
Instructional Program Assessment Plan for Learning Outcomes
Associate in Science (A.S.) Degree – Information Technology
Submitted by: Annie Brown / Kent Killam, July 2, 2009

Semester: Spring 2009

Student Learning Outcome (program level) for Assessment (taken from Appendix):

4. Productivity: Work independently and *cooperatively* to deliver reports, programs, projects, and other deliverables that document a business organization’s information technology requirements.

Step 1. Identify the artifacts (i.e. student work) for assessment and courses from which selected:

ITS 284	Chapter 6 Group Assignment – Telecommunications Peer Evaluations – Deliverables: Chapters 4-6 Chapter 10 Group Assignment – Network Management Peer Evaluations – Deliverables: Chapters 10-11
---------	---

Step 2. Develop the assessment tool (e.g. rubric) to be used with 3 levels of assessment.

Assessment rubric is attached.

Step 3. Set the Performance Rate

The group assignments reviewed by the Assessment Team will meet or exceed content expectations.
80% of the group participants will meet or exceed performance expectations.

Step 4. Describe the method used to collect the artifacts:

All of the deliverables for the specified assignments will be collected and made available to the Assessment Team.

Step 5. Describe the sampling method used to collect the data:

Deliverables are group assignments and all will be provided to the Assessment Team.

Step 6. Describe the composition of the Assessment Team (AT):

1. One faculty member (IT/ICS). Not a member of the IT AS degree program faculty.
2. One former graduate from the IT AS degree program.
3. One advisory board member, or one employee of an advisory board member’s organization, or one employer of IT graduates.

Step 7. The Assessment Team uses the assessment tool(s) (e.g. rubric) to evaluate the data.

Step 8. The Program will summarize and interpret the results, and determine the implications for program improvement. Note: a summary will be included in the comprehensive program review.

Hawai`i Community College
 Instructional Program Assessment Plan for Learning Outcomes
 Associate in Science (A.S.) Degree – Information Technology
 Submitted by: Annie Brown / Kent Killam, July 2, 2009

Semester: Spring 2009

Student Learning Outcome (program level) for Assessment (taken from Appendix):

4. Productivity: Work independently and *cooperatively* to deliver reports, programs, projects, and other deliverables that document a business organization’s information technology requirements.

ITS 284 Group Deliverable Content Rubric			
Characteristic	Exceeds Expectations – Level 3	Meets Expectations – Level 2	Does Not Meet Expectations – 1
Completeness	The deliverable includes all the information that was required.	The deliverable includes most information that was required.	The deliverable includes some information that was required.
Accuracy	All responses are accurate and answer the questions.	Most responses are accurate and answer the questions.	Some responses are accurate and answer the questions.
Readability	The deliverable contains none or very few spelling/grammar errors.	The deliverable contains some spelling/grammar errors.	The deliverable contains several spelling/grammar errors that affect the quality of the assignment.

Hawai`i Community College
 Instructional Program Assessment Plan for Learning Outcomes
 Associate in Science (A.S.) Degree – Information Technology
 Submitted by: Annie Brown / Kent Killam, July 2, 2009

Semester: Spring 2009

Student Learning Outcome (program level) for Assessment (taken from Appendix):

4. Productivity: Work independently and *cooperatively* to deliver reports, programs, projects, and other deliverables that document a business organization’s information technology requirements.

ITS 284 Group Deliverable Peer Evaluation Rubric			
Characteristic	Exceeds Expectations – Level 3	Meets Expectations – Level 2	Does Not Meet Expectations – 1
Team members cooperated and fairly distributed the project requirements. (Questions: 1, 2, and 4.)	All team members worked well together.	Most team members worked well together.	Some team members worked well together.
Team members participated and contributed to complete the project requirements. (Questions: 3, 5, 6, 7, 8, and 9.)	All team members participated and contributed to the project completion.	Most team members participated and contributed to the project completion.	Some team members participated and contributed to the project completion.

Information Technology
Assessment of Student Learning Outcome Results
Semester: Spring 2009

Student Learning Outcome to be assessed:

PLO #4: Productivity: Work independently and cooperatively to deliver reports, programs, projects, and other deliverables that document a business organization's information technology requirements.

Evaluation Team Members:

The evaluation team consisted of three members of the IT Advisory Committee:

Linda Nako, Information Specialist, Police Department, County of Hawaii

Pauline Roth, Controller, Gemini Observatory.

Shane Vasconcellos, Information Technology Specialist, Imiloa Astronomy Center of Hawaii

Artifact and Sampling Method:

Selected assignments – one from beginning and end of the semester i.e. class #20 and class #30 were collected from all the students enrolled in ITS 284 “Data Communications Fundamentals”

Evaluators were given two team assignments for the course for evaluation.

Evaluation of Results:

Evaluators were given an evaluation sheet with three scales: Exceeds Expectations (Level 3), Meets Expectations (Level 2), and Does not Meet Expectations (Level 1) for each of three characteristics, namely: “Completeness,” “Accuracy,” “Readability,” “Team members cooperated and fairly distributed the project requirements,” and “Team members participated and contributed to complete the project requirements.”

Of the 6 evaluations, 4 (67%) listed all five characteristics as exceeding expectations, 2 (33%) listed three characteristics as exceeding expectations and two characteristics as meeting expectations. All (100%) of the evaluations were at the level of meeting or exceeding expectations. This shows a strong endorsement of our meeting programmatic goals for this student learning outcome.

Planned Action:

The data presented here cover all the second year students who are graduating in this semester, and thus is an adequate sampling of the program's graduating student body. The data suggest that the program is meeting its goals of learning outcomes.

Submitted by: Annie Brown (April 13, 2010)

Hawai`i Community College
 Instructional Program Assessment Plan for Learning Outcomes
 Associate in Science (A.S.) Degree – Information Technology
 Submitted by: Annie Brown

Semester: Fall 2009

Student Learning Outcome (program level) for Assessment (taken from Appendix):

7. Information Systems: Plan, develop, and implement the hardware, software, and procedural components of a data processing system in a business environment.

Step 1. Identify the artifacts (i.e. student work) for assessment and courses from which selected:

ICS101	Chapter 4 – Using Application Software Chapter 6 – Understanding and Assessing your Hardware: Evaluating your System Chapter 8 – Mobile Computing: Keeping your Data on Hand
ITS 218	Chapter 4 – Troubleshooting Computer Problems - Projects 4-2, 4-7, 4-8, Case #1 Chapter 5 – Common Support Problems - Project 5-1, 5-2, 5-3, 5-4, 5-5, Case #3 Chapter 11 – Training Computer Users – Project 11-1, 11-4, 11-5, Case #1, Case #2

Step 2. Develop the assessment tool (e.g. rubric) to be used with 3 levels of assessment.

Assessment rubrics are attached.

Step 3. Set the Performance Rate

80% of the artifacts assessed by the Assessment Team will meet or exceed expectations.

Step 4. Describe the method used to collect the artifacts:

All of the deliverables for the specified assignments will be collected. Copies of all assignments will be made and placed in two envelopes – ITS 101 and ITS 218

Step 5. Describe the sampling method used to collect the data:

If the total number of deliverables is too large for review a subset of each assignment from each course will be determined and selected by the Assessment Team.

Step 6. Describe the composition of the Assessment Team (AT):

1. One faculty member (IT/ICS). Not a member of the IT AS degree program faculty.
2. One former graduate from the IT AS degree program.
3. At least one advisory board member, or one employee of an advisory board member's organization, or one employer of IT graduates.

Step 7. The Assessment Team uses the assessment tool(s) (e.g. rubric) to evaluate the data.

Step 8. The Program will summarize and interpret the results, and determine the implications for program improvement. Note: a summary will be included in the comprehensive program review.

Hawai`i Community College
 Instructional Program Assessment Plan for Learning Outcomes
 Associate in Science (A.S.) Degree – Information Technology
 Submitted by: Annie Brown

Semester: Fall 2009

Student Learning Outcome (program level) for Assessment (taken from Appendix):

1. Information Systems: Plan, develop, and implement the hardware, software, and procedural components of a data processing system in a business environment.

ICS 101 Procedural Components Rubric			
Characteristic	Exceeds Expectations – Level 3	Meets Expectations – Level 2	Does Not Meet Expectations – 1
Specifications	The selected components satisfy all of the required specifications for the implementation of hardware, software and procedural components of a data processing system.	The selected components satisfy most of the required specifications for the implementation of hardware, software and procedural components of a data processing system.	The selected components do not satisfy the required specifications for the implementation of hardware, software and procedural components of a data processing system.
Design	The selected components follow the principles of a well designed data processing system.	The selected components follow most of the principles of a good designed data processing system.	The selected components do not follow the principles of good designated data processing system.
Readability	The selected components are well organized and very easy to follow.	The selected components are somewhat organized and fairly easy to follow.	The selected components are poorly organized and very difficult to follow.
Documentation	The user and technical documentation clearly explain the planning, developing, and implementing of hardware, software and procedural components of the system.	The user and technical documentation do not clearly explain the planning, developing, and implementing of hardware, software and procedural components of the system. Some parts are not documented.	The user and technical documentation are not clear and do not explain the planning, developing, and implementing of hardware, software and procedural components of the system. Most parts are not documented

Hawai`i Community College
 Instructional Program Assessment Plan for Learning Outcomes
 Associate in Science (A.S.) Degree – Information Technology
 Submitted by: Annie Brown

Semester: Fall 2009

Student Learning Outcome (program level) for Assessment (taken from Appendix):

1. Information Systems: Plan, develop, and implement the hardware, software, and procedural components of a data processing system in a business environment.

ITS 218 Help Desk Procedural Components Rubric			
Characteristic	Exceeds Expectations – Level 3	Meets Expectations – Level 2	Does Not Meet Expectations – 1
Specifications	The projects satisfy all of the required specifications of planning, developing and implementing the hardware, software and procedural components of a data processing system, which is easy to understand and implement.	The projects satisfy most of the required specifications of planning, developing and implementing the hardware, software and procedural components of a data processing system, which is fairly easy to understand and implement.	The projects do not satisfy any of the required specifications of planning, developing and implementing the hardware, software and procedural components of a data processing system, which is not easy to understand and implement.
Design	The projects follow the principles of a well planned, designed, and implemented data processing system.	The projects follow some of the principles of a well planned, designed, and implemented data processing system.	The projects do not follow the principles of good planned, designed, and implemented data processing system.
Readability	The projects are well organized and very easy to follow.	The projects are fairly organized and somewhat easy to follow.	The projects are poorly organized and very difficult to follow.
Documentation	The user and technical documentation clearly explain the planning, developing, and implementing of hardware, software and procedural components of the system.	The user and technical documentation do not clearly explain the planning, developing, and implementing of hardware, software and procedural components of the system. Some parts are not documented.	The user and technical documentation are not clear and do not explain the planning, developing and implementing of hardware, software and procedural components of the system. Most parts are not documented

Information Technology
Assessment of Student Learning Outcomes
Semester: Fall 2009

Student Learning Outcome to be assessed:

PLO #1: Information Systems: Plan, develop and implement the hardware, software and procedural components of a data processing system in a business environment.

Evaluation Team Members:

The evaluation team consisted of three members of the IT Advisory Committee and a graduate of the program:

James Kiley, Information System manager, Data Systems Department, County of Hawaii

Linda Nako, Information Specialist, Police Department, County of Hawaii

Pauline Roth, Controller, Gemini Observatory

Brandon Torres, Information Technology Manager, Suisan Company, Ltd.

Artifact and Sampling Method:

Selected assignments from two different courses – three assignments from each course, one from each 1/3 of the semester, i.e., 1st, 2nd, and 3rd five week period - were collected from all the students in ICS 101 “Digital Tools for the Information World” and ITS 218 “Help Desk Support.” These represent courses in the first and third semesters, respectively, for students in the IT Program. Evaluators randomly selected three assignments from each course for evaluation. For ICS 101, a total of 39 assignments were evaluated. For ITS 218, a total of 18 assignments were evaluated.

Evaluation of Results:

Evaluators were given an evaluation sheet with three scales: Exceeds Expectations (Level 3), Meets Expectations (Level 2) and Does Not Meet Expectations (Level 1) for each of four characteristics, namely: “Specifications,” “Design,” “Readability,” and “Documentation.” Of the 39 evaluations from the ICS 101 course, for Specifications, 16 (41%) were rated as exceeding expectations, 14 (36%) were rated as meets expectations, and 9 (23%) were rated as does not meet expectations. For design, 11(28%) were rated exceeds expectations, 18 (46%) met expectations, and 10 (26%) did not meet expectations. For readability, 19 (54%) exceeded expectations, 11 (28%) met expectations, and 9 (23%) did not meet expectations. Finally, for documentation, 17 (44 %) exceeded expectations, 9 (23%) met expectations, and 13 (33%) did not meet expectations.

Overall, for ICS101 115 (73.75%) of the evaluations exceed and/or meet expectations with 41 (26.25%) rated as did not meet expectations. This is not surprising considering this is the very first course in our IT curriculum and students have not gone through our rigorous training. On the whole, the evaluation is not far from our set goal of having 80% as exceeding and/or meeting expectations.

Of the 18 evaluations from the ITS 218 course, for Specifications, 16 (88.88%) were rated as exceeding expectations, 2 (11.11%) were rated as meets expectations, and 0 % were rated as does not meet expectations. For design, 16 (88.88%) were rated exceeds expectations, 2 (11.11%) met expectations, and 0 % did not meet expectations. For readability, 12 (66.66%) exceeded expectations, 6 (33.33%) met expectations, and 0 % did not meet expectations. Finally, for documentation, 16 (88.88%) exceeded

expectations, 2 (11.11%) met expectations, and 0% did not meet expectations. Overall, for ITS 218 100% of the evaluations stated that student outcomes met or exceeded expectations.

The improvement in the evaluations show that as the IT students go through our training, their IT skills improve and thus they meet our program goals.

Planned Action

The data presented here cover both first and second year students from two different courses, and thus are an adequate sampling of the program's student body. The data show that the program is largely meeting its goals of learning outcomes. Continued improvement is desired, however. In the future, evaluators will be interviewed to discuss what course changes may be instituted to reduce the number of student assignments that fall below expectations. Evaluation and monitoring will be continued to insure that goals continue to be met.

Submitted by: Annie Brown (May 11, 2010)

Hawai`i Community College
Instructional Program Assessment Plan for Learning Outcomes
Associate in Science (A.S.) Degree – Information Technology
Submitted by: Annie Brown, May 14, 2010

Semester: Spring 2010

Student Learning Outcome (program level) for Assessment (taken from Appendix):

8. Networking: Plan, develop, and implement the hardware, software, and procedural components of a data communications system in a business environment.

Step 1. Identify the artifacts (i.e. student work) for assessment and courses from which selected:

ITS 108	4. Maintaining Windows. 8. Networking Essentials. 9. Networking Practices.
---------	--

Step 2. Develop the assessment tool (e.g. rubric) to be used with 3 levels of assessment.

Assessment rubrics are attached.

Step 3. Set the Performance Rate

80% of the artifacts assessed by the Assessment Team will meet or exceed expectations.

Step 4. Describe the method used to collect the artifacts:

All of the deliverables for the specified assignments will be collected. Copies of all assignments will be made and placed in an envelope.

Step 5. Describe the sampling method used to collect the data:

If the total number of deliverables is too large for review a subset of each assignment from each course will be determined and selected by the Assessment Team.

Step 6. Describe the composition of the Assessment Team (AT):

- | |
|---|
| 1. One faculty member (IT/ICS). Not a member of the IT AS degree program faculty. |
| 2. One former graduate from the IT AS degree program. |
| 3. At least one advisory board member, or one employee of an advisory board member's organization, or one employer of IT graduates. |

Step 7. The Assessment Team uses the assessment tool(s) (e.g. rubric) to evaluate the data.

Step 8. The Program will summarize and interpret the results, and determine the implications for program improvement. Note: a summary will be included in the comprehensive program review.

Hawai`i Community College
 Instructional Program Assessment Plan for Learning Outcomes
 Associate in Science (A.S.) Degree – Information Technology
 Submitted by: Annie Brown

Semester: Spring 2010

Student Learning Outcome (program level) for Assessment (taken from Appendix):

2. Networking: Plan, develop, and implement the hardware, software, and procedural components of a data communications system in a business environment.

ITS 108 Procedural Components Rubric			
Characteristic	Exceeds Expectations – Level 3	Meets Expectations – Level 2	Does Not Meet Expectations – 1
Specifications	The selected components satisfy all of the required specifications for the implementation of hardware, software and procedural components of a data communications system in a business environment.	The selected components satisfy most of the required specifications for the implementation of hardware, software and procedural components of a of a data communications system in a business environment.	The selected components do not satisfy the required specifications for the implementation of hardware, software and procedural components of a of a data communications system in a business environment.
Design	The selected components follow the principles of a well designed data communications system in a business environment.	The selected components follow most of the principles of a good data communications system in a business environment.	The selected components do not follow the principles of data communications system in a business environment.
Readability	The selected components are well organized and very easy to follow.	The selected components are somewhat organized and fairly easy to follow.	The selected components are poorly organized and very difficult to follow.
Documentation	The user and technical documentation clearly explain the planning, developing, and implementing of a data communications system in a business environment.	The user and technical documentation do not clearly explain the planning, developing, and implementing of a data communications system in a business environment. Some parts are not documented.	The user and technical documentation are not clear and do not explain the planning, developing, and implementing of a data communications system in a business environment. Most parts are not documented.

Hawai`i Community College
Instructional Program Assessment Plan for Learning Outcomes
Associate in Science (A.S.) Degree – Information Technology
Submitted by: Annie Brown May 14, 2010

Semester: Spring 2010

Student Learning Outcome (program level) for Assessment (taken from Appendix):

2. Networking: Plan develop, and implement the hardware, software, and procedural components of a data communications system in a business environment.

Step 1. Identify the artifacts (i.e. student work) for assessment and courses from which selected:

ITS 284	Chapter 3 Group Assignment – Introduction: The Physical Layer Chapter 5 Group Assignment – Wireless LANs (WLANs) Chapter 8 Group Assignment – TCP/IP Internetworking
---------	--

Step 2. Develop the assessment tool (e.g. rubric) to be used with 3 levels of assessment.

Assessment rubric is attached.

Step 3. Set the Performance Rate

The group assignments reviewed by the Assessment Team will meet or exceed content expectations.
80% of the group participants will meet or exceed performance expectations.

Step 4. Describe the method used to collect the artifacts:

All of the deliverables for the specified assignments will be collected and made available to the Assessment Team.

Step 5. Describe the sampling method used to collect the data:

Deliverables are group assignments and all will be provided to the Assessment Team.

Step 6. Describe the composition of the Assessment Team (AT):

1. One faculty member (IT/ICS). Not a member of the IT AS degree program faculty.
2. One former graduate from the IT AS degree program.
3. At least one advisory board member, or one employee of an advisory board member's organization, or one employer of IT graduates.

Step 7. The Assessment Team uses the assessment tool(s) (e.g. rubric) to evaluate the data.

Step 8. The Program will summarize and interpret the results, and determine the implications for program improvement. Note: a summary will be included in the comprehensive program review.

Hawai`i Community College
 Instructional Program Assessment Plan for Learning Outcomes
 Associate in Science (A.S.) Degree – Information Technology
 Submitted by: Annie Brown

Semester: Spring 2010

Student Learning Outcome (program level) for Assessment (taken from Appendix):

2. Networking: Plan, develop, and implement the hardware, software, and procedural components of a data communications system in a business environment.

ITS 284 Procedural Components Rubric			
Characteristic	Exceeds Expectations – Level 3	Meets Expectations – Level 2	Does Not Meet Expectations – 1
Specifications	The selected components satisfy all of the required specifications for the implementation of hardware, software and procedural components of a data communications system in a business environment.	The selected components satisfy most of the required specifications for the implementation of hardware, software and procedural components of a of a data communications system in a business environment.	The selected components do not satisfy the required specifications for the implementation of hardware, software and procedural components of a of a data communications system in a business environment.
Design	The selected components follow the principles of a well designed data communications system in a business environment.	The selected components follow most of the principles of a good data communications system in a business environment.	The selected components do not follow the principles of data communications system in a business environment.
Readability	The selected components are well organized and very easy to follow.	The selected components are somewhat organized and fairly easy to follow.	The selected components are poorly organized and very difficult to follow.
Documentation	The user and technical documentation clearly explain the planning, developing, and implementing of a data communications system in a business environment.	The user and technical documentation do not clearly explain the planning, developing, and implementing of a data communications system in a business environment. Some parts are not documented.	The user and technical documentation are not clear and do not explain the planning, developing, and implementing of a data communications system in a business environment. Most parts are not documented.

**Information Technology
Assessment of Student Learning Outcomes
Semester: Spring 2010**

Student Learning Outcome to be assessed:

PLO #2: Networking: Plan, develop, and implement the hardware, software, and procedural components of a data communications system in a business environment.

Evaluation Team Members:

The evaluation team consisted of two members of the IT Advisory Committee and a graduate of the program:

James Kiley, Information System manager, Data Systems Department, County of Hawaii

Linda Nako, Information Specialist, Police Department, County of Hawaii

Brandon Torres, Information Technology Manager, Suisan Company Ltd. (IT Program graduate)

Artifact and Sampling Method:

Selected assignments from two different courses – three assignments from each course, one from each 1/3 of the semester - were collected from all the students in ITS 108 “Computer Software Support” and ITS 284 “Data Communications Fundamentals.” These represent courses in the second and fourth semesters, respectively, for students in the IT Program. Evaluators randomly selected three assignments from each course for evaluation. For ITS 108, a total of 27 assignments were evaluated. For ITS 284, a total of 9 group assignments were evaluated.

Evaluation of Results:

Evaluators were given an evaluation sheet with three scales: Exceeds Expectations (Level 3), Meets Expectations (Level 2) and Does Not Meet Expectations (Level 1) for each of four characteristics, namely: “Specifications,” “Design,” “Readability,” and “Documentation.” Of the 27 evaluations from the ITS 108 course, for Specifications, 22 (81%) were rated as exceeding expectations, and 5 (19%) were rated as meets expectations, with no ratings as does not meet expectations. For design, 21(78%) were rated exceeds expectations, and 6 (22%) met expectations; again, no assignments were rated as does not meet expectations. For readability, 19 (70%) exceeded expectations, and 8 (30%) met expectations; again, no assignments were rated as does not meet expectations. Finally, for documentation, 17 (63%) exceeded expectations, 9 (33%) met expectations, and 1 (4%) did not meet expectations.

Overall, for ITS 108 107 (99%) of the evaluations exceed and/or meet expectations with only 1 (1%) rated as did not meet expectations. This far exceeds our set goal of having 80% as exceeding and/or meeting expectations.

Of the 9 evaluations from the ITS 284 course, for Specifications, all 9 (100%) were rated as exceeding expectations. For design, 8 (89%) were rated exceeds expectations, and 1 (11%) met expectations. For readability, all 9 (100%) exceeded expectations. Finally, for documentation, 5 (56%) exceeded expectations, and 4 (44%) met expectations. Overall, for ITS 284 100% of the evaluations stated that student outcomes met or exceeded expectations. Again, this far exceeds our set goal of having 80% as exceeding and/or meeting expectations.

Planned Action

The data presented here cover both second and fourth year students from two different courses, and thus are an adequate sampling of the program's student body. The data show that the program is clearly meeting its goals of learning outcomes. Continued improvement is desired, however. In the future, evaluators will be interviewed to discuss what course changes may be instituted to increase the number of student assignments that exceed expectations. Evaluation and monitoring will be continued to insure that goals continue to be met.

Submitted by: Annie Brown (May 14, 2010)