

**Eastern West Virginia
Community & Technical College**

Program Review

Information Technology, Certificate in Applied Science

Fall 2017

Institution: Eastern West Virginia Community and Technical College
Program (Degree and Title): Information Technology, Certificate in Applied Science

Program Overview

Creation of the Information Technology, Certificate in Applied Science took place in 2009. This certificate was developed to better serve the needs of the employers in Eastern's district. The Information Technology CAS incorporated existing courses from General Education, Information Technology, and Computer Information Systems. It provides an opportunity for students interested in basic Information Technology (IT) fields to improve their computer skills and prepare for IT related jobs.

The Information Technology CAS requires students to develop effective computation and communications skills. The graduates of the Certificate Program will have basic skills in computer related fields. They will also have a solid foundation for pursuing an AAS in Information Technology. This program accepts applicants with a high school diploma or GED. All Certificate Program courses transfer to the AAS program in Information Technology.

Please see Appendix I for program description.

Synopses of significant findings, including findings of external reviewer(s):

Eastern has offered a certificate in Information Technology for past nine years. From fall 2010 to spring 2013, the program had three graduates. However, during this evaluation cycle the number of graduates has increased from three to eleven.

A review of ten of the eleven graduates of the Certificate in Applied Science in Information Technology indicated one completed the CAS program, but did not continue toward an Associate Degree. Out of nine remaining graduates who took courses beyond the CAS level, one student dropped out, one student completed an Associate Degree in Board of Governors, one transferred to Fairmont State University and the remaining six students successfully completed their Associate Degree in Information Technology. One of the nine graduates of the CAS program dropped out of the Associate Degree program. This indicates that the retention rate from the certificate level to the associate degree level stands at a rate of 89%.

This program did not have an external review conducted. However, administration of the NOCTI exam served as external assessment of the program's efficacy.

AAS programs in Business Management, Administrative Support Technology, Information Technology, and other business technologies programs and certificates offer all required courses for this Information Technology certificate. As a result, the cost of running this certificate is minimal and the AAS programs in Business Technologies absorb this cost. This Certificate does not have full-time faculty. The revenues generated

by the tuition exceed the expenses, thus leaving the college with a positive net income. The IT program currently utilizes three adjunct faculty for all the core and elective courses. In fall 2013, the college hired a full-time faculty in Information Technology. This IT faculty worked for the college for two years and developed several of the IT courses.

Seventy-eight percent of the graduates receiving a CAS in Information Technology continue their education for AAS in Information Technology. The job placement of these graduates is consistent with the job placement of the AAS graduates.

The college is using the NOCTI “Information Support and Services” exam to assess the outcomes of this certificate. Five students who took this national exam received an average score of 73. The national average score for this exam is 73.8 with the cut score of 59.5.

In fall 2015, the college received approval as a testing site for the Microsoft Technology Associate (MTA) certification. Six students took the exams and all six received the certification. The cost of the MTA exam is \$50 and is included in the tuition of the IT courses. Additional student certifications will occur in the future.

Mapping of the certificate's outcomes and NOCTI's outcomes:

NOCTI Outcomes		1	2	3	4	5	6	Eastern NOCTI Avg.	NOCTI National Agv.	Outper formed	Underp erformed
BANN Title											
F15A	Info Tech App/Technical Skills	x	x			x	x	66.3	68.4		-2.1
F15C	Academic Foundations Subscore							77.5	68.7	8.8	
F15D	Systems Subscore							71.3	73.5		-2.2
F15E	Ethics/Legal Response Score							77.4	82.7		-5.3
F15F	Communications Subscore			x				66.8	66.2	0.6	
F15G	Prob Solv/Critical Thinking Score							76.0	72.2	3.8	
F15H	Leadership/Teamwork Score							84.9	83.3	1.6	
F15I	Safety/Health Environment Score							71.1	78.4		-7.3
F15J	Employability/ Career Dev							73.7	75		-1.3
	Infor Support Services	x	x		x		x	71.5	77.2		-5.7
PF10	NOCTI Info Support Services (Weighted Average)							73	73.8		-0.8
Program Outcomes -											
1	Design an interactive website										
2	Perform routine maintenance and repairs on PC's hardware										
3	Demonstrate effective communication and computation skills (Assessed through Gen. Ed. Courses and ETS)										
4	Demonstrate a basic knowledge of business organization and procedures										
5	Demonstrate a basic knowledge regarding information systems										
6	Design and manage a database										

CAS students scored 7.3 points below the national average for Safety / Health Environment. However, this outcome of NOCTI is not an outcome of the certificate. This is the same as Ethic and Legal Response of NOCTI's outcome. No actions are needed for this review cycle since students' average score is the same as the national average.

Course level assessment:

Nine program courses were assessed during this review period:

Year	Semester	Sbj.	Crs. #	# of Students	Crs Av	Target for Assessed Outcomes	Performance +/-	% of Assessed Outcomes	Action Plan / Notes
2016	Fall	CIS	121	7	83%	75%	8%	100%	No Action is needed - focus on unmet outcomes
2015	Fall	CIS	119	12	61%	75%	-14%	85%	Performance improved in 2016 and 2017
2016	Fall	CIS	119	15	84%	75%	9%	100%	Performance improved since previous year - focus on unmet outcomes

2017	Spring	CIS	119	21	85%	75%	10%	100%	Performance improved since previous year
2015	Spring	IT	134	5	89%	75%	14%	100%	No Action is needed - focus on unmet outcomes
2018	Spring	IT	228	6	64%	75%	-11%	100%	Low enrollment course
2017	Fall	IT	233	12	42%	75%	-33%	11%	Only one outcome was assessed this period. No actions needed. Assess all outcomes next time the course is offered
2014	Summer	BUS	101	11	89%	75%	14%	79%	Outcomes of this course were reduced to simplify assessment
2012	Fall	BUS	101	11	88%	75%	13%	12%	Outcomes of this course were reduced to simplify assessment

Sample / Summary of Assessment of General Education Courses:

Semester	Course Assessed	# of Students	Target for assessed outcomes	Result
Spring 2013	MTH 121	9	75%	25% outcomes met at 75% or above.
Fall 2013	CIS 108	25	75%	91.5% of outcomes met at 75% or above.
Spring 2013	CIS 108	17	75%	75% outcomes met at 75% or higher
Spring 2014	CIS 108	25	75%	97% outcomes met at 75% or above.
Spring 2013	CIS 108	17	75%	100% outcomes met at 75% or higher
Fall 2013	CIS 108	25	75%	100% outcomes met at 75% or higher
Spring 2014	CIS 108	25	75%	100% outcomes met at 75% or higher
Fall 2014	MTH 115	10	75%	50% outcomes met at 75% or higher
Fall 2015	CIS 114	9	75%	44% outcomes met at 75% or higher
Spring 2012 – Spring 2015	ENL 101	235	75%	71% outcomes met at 75% or higher

The assessment of the above courses shows that no action is needed for this evaluation cycle. More IT courses should be assessed for the next evaluation period.

Plans for program improvement, including timeline:

The number of graduates of the CAS program is to remain at a constant rate of three students per year for the next five years. However, expectations predict the quality of the program will improve as Eastern expands its course and program assessment. The quality of the program will improve as other related programs become more firmly established and as the college hires more instructors that are qualified.

Focusing on industry certification, including the MTA certification, will improve the program quality and help students enhance their resumes. To ensure the students can be competitive in the IT field, an IT program revision replaced some of the computer information systems courses with IT courses. Courses will incorporate more hands-on practice.

The assessment of the program shows that the IT students can benefit by the addition of a cyber-security course to the list of core courses. IT program revision in the school year 2018-2019 will include this recommendation.

Identification of weaknesses or deficiencies from the previous review and the status of improvements implemented or accomplished:

In fall 2014, the College administered the NOCTI exam for the first time. The exam results gave the college the opportunity to better assess the Certificate's outcomes.

In the past five years, the quality of instruction improved due to availability of well-qualified instructors. The college is currently expanding its partnership with Potomac State College, Franklin University, Frostburg State University and West Virginia University. In the past four years, several Business Technologies instructors received certification in Quality Matters. Certification of more Business, IT, and General Education instructors will be in the near future. The college plans to apply Quality Matters standards to online and hybrid courses.

The college has adopted Cengage textbooks for more than 80% of the program courses. This fall, students can pay a flat rate of \$120 a semester to rent up to six eBooks. The IT students are informed about this service of Cengage known as "Cengage Unlimited."

Summary of Assessment Model and Utilization for Program Improvement

The assessment of the Certificate in Information Technology adheres to the guidelines established in Eastern's assessment plan to discern student academic achievement and course effectiveness in meeting the program goals and course outcomes.

Eastern's assessment plan consists of three levels: entry-level assessment (ACCUPLACER, SAT, ACT), active enrollment assessment (course and program assessment, student satisfaction surveys, etc.), and post-graduation assessment (employment satisfaction survey, alumni survey, employment and salary data, etc.). Since December 2014, IT students participated in taking the NOCTI exam. This delivers a variety of assessments for students studying career and technical programs at technical colleges. Administration of IDEA Short Form Reports (i.e. course evaluation surveys) takes place each semester in all course sections with enrollment of six or more students. Course completion rates and student tracking studies serve as a measure of overall program success

Based on the recommendation of the visiting HLC team in 2013, the number of Learning Outcomes for the IT courses decreased from an average of 35 outcomes per course to an average of 10. This revision has streamlined the assessment process.

In fall 2015, the College received approval as a testing site for Microsoft Office Specialist Certification, MOS, and Microsoft Technology Associate exam, MTA. So far, three students attempted the MOS exam and two received the certification, while six students took the MTA exam and all six passed the exam.

Five IT students took the NOCTI test during a three-year period. Results revealed those students scored an average of 73 compared to the national average score of 73.8.

IT CAS Subscores								
BANNER Code	Title	Student 1	2	3	4	5	Eastern's AVG	National AVG
F15A	Info Tech App/Technical Skills	56.3	37.5	81.3	81.3	75	66.3	68.4
F15B	Info Sppt Services Tech Skills	72.7	63.5	57.9	79	84.2	77.5	68.7
F15C	Academic Foundations Subscore	84.6	84.6	72.7	81.8	63.6	71.3	73.5
F15D	Systems Subscore	66.7	89.9	69.2	84.6	46.1	77.4	82.7
F15E	Ethics/Legal Response Score	45.5	63.6	88.9	100	88.9	66.8	66.2
F15F	Communications Subscore	50	66.7	81.08	72.7	63.6	76.0	72.2
F15G	Prob Solv/Critical Thinking Score	80	100	66.7	83.3	50	84.9	83.3
F15H	Leadership/Teamwork Score	66.7	77.8	100	100	80	71.1	78.4
F15I	Safety/Health Environment Score	37.5	62.5	77.8	88.9	88.9	73.7	75
F15J	Employability/ Career Dev	89.5	79	75	50	75	71.5	77.2
PF15	NOCTI Info Support Serv						73	73.8

Based on the above test results, no changes are needed.

Enrollment and Graduates:

From fall 2012 to spring 2017, eleven students completed a Certificate in Information Technology.

Graduate one: Works for an employer in an unrelated field – received offer of a night shift IT position, but refused.

Graduate two: No information is available.

Graduate three: Completed an AAS in IT. Works in the IT field in Winchester, Virginia and lives in Virginia

Graduate four: Completed a Bachelor's degree in Aviation through Fairmont University. He is returning to Eastern this fall to complete an Associate Degree in Business Management.

Graduate five: Completed two Associate Degrees, including an AAS in IT. He currently has a job related to his other associate degree, which is not IT related.

Graduate six: Is working in a managerial position. However, this position does not require an IT degree.

Graduate seven: Completed an AAS in IT and is looking for an IT job, but has not been successful so far.

Graduate eight: Completed an AAS in IT and moved to Virginia. No further information is available.

Graduate nine: Completed an AAS in IT and CAS in Business and secured a leadership position in an IT/Manufacturing organization

Graduate ten: Completed an AAS in IT. This graduate is retired and is not looking for a job

Graduate eleven: This graduate completed an AAS degree in Board of Governors. She also received three additional certificates from Eastern

Five-year trend data on graduates and majors enrolled:

Enrollment and graduates from fall 2012 to spring 2017:

	Headcount	FTE	Full-Time	Graduates
Fall 2012	5	3.5	4	1
Spring 2013	3	2.2	2	1
Fall 2013	2	1	0	0
Spring 2014	1	.8	1	1
Fall 2014	1	.8	1	0
Spring 2015	1	.8	1	2
Fall 2015	2	1.6	1	2
Spring 2016	3	2.6	3	3
Fall 2016	4	2.7	2	1
Spring 2017	2	1.4	1	0
Total	24	17.4	16	11

Final recommendations approved by governing board.

According to recommendations, meeting the needs of Eastern’s six-county district occurs best by continuing the Program in its current format of full-time day course implementation. Other recommendations suggest increasing the number of articulation agreements and exploring the feasibility of offering the IT program as a web-based program.

Additionally,

- Promote industry certification
- Apply Quality Matters standards to online and hybrid courses
- Utilize technology to better assess courses and program
- Facilitate the transfer of graduates to associate and Bachelor’s Degree programs
- Add cyber security courses to the curriculum

Appendix I

Information Technology

SOC

Code: 15-1151

Certificate in Applied Science

30 Semester Hours

Upon successful completion of the Information Technology Certificate in Applied Science, the graduate will be able to:

- Design an interactive website
- Perform routine maintenance and repairs on PC's hardware
- Demonstrate effective communication and computation skills
- Demonstrate a basic knowledge of business organization and procedures
- Demonstrate a basic knowledge regarding information systems
- Design and manage a database

Program Implementation: Full-time day (Students attending part-time should see advisor for recommended course sequencing.)

Recommended Course Sequence – Information Technology, Certificate in Applied Science

First Year—Fall Semester				First Year—Spring Semester			
Dept.		Course Title	Sem. Hrs.	Dept.		Course Title	Sem. Hrs.
BUS	101	Introduction to Business	3	CIS	119	Spreadsheet Software OR	3
CIS	114	Introduction to Computer Applications and Concepts	3	CIS	121	Database Management Software	(3)
CIS	122	Introduction to Information Systems	3	CIS	133	Introduction to Web Design	3
ENL	101	English Composition I	3	IT	180	PC Repair and Troubleshooting	3
Elective		Information Technology Core/Elective	3	Elective		Information Technology Core/Elective	3
				Elective		Mathematics Elective (MTH 121 or higher)	3
<i>Total Semester Hours</i>			<i>15</i>	<i>Total Semester Hours</i>			<i>15</i>

Information Technology Core/Electives (Select 6 Credits)		
Dept.	Title	Sem. Hrs.
CIS 119	Spreadsheet Software	3
CIS 121	Database Management Software	3
IT 134	Networking Fundamentals	3
IT 181	Operating Systems	3
IT 192	Introduction to Programming in Visual Basic	3
IT 194	Introduction to Programming Java	3
IT 198	Introduction to C# Programming	3
IT 220	Windows Server Administration Fundamentals	3
IT 228	Systems Analysis and Design	3
IT 233	Introduction to Web Programming	3
IT 234	Database Administration Fundamentals	3
IT 269	Project Management	3
IT 275	Security Fundamentals	3

Approved by Assessment: 6/12/18
 Approved by LOT: 6/19/2018
 Approved by Cabinet: 7/10/2018
 Approved by BOG: 9/19/18