

Post-Audit Review

West Virginia Council for Community and Technical College Education

Institution: Eastern West Virginia Community and Technical College

Program (Degree and Title): Information Technology, Certificate in Applied Science

I. Introduction

The Information Technology, Certificate in Applied Science was developed in 2009 to serve the needs of the employers in Eastern's College district, and was created by incorporating existing courses from general education, Information Technology and Computer Information Systems. This certificate provides an opportunity for students who are interested in basic Information Technology (IT) fields to improve their computer skills and to prepare themselves for IT related jobs. In 2011, the addition of college level math to the curriculum modified the program to enhance the computational skills of the students, and to make the certificate compliant with Series 11.

II. Goals and Objectives

The Certificate in Applied Science in Information Technology was developed with the help of local employers. The goals of the program are to give students the skills to work in information technology positions and to respond to the needs of the employers. Graduates of the program will be better prepared as employees to perform the duties of IT professionals in Eastern's district to meet the technology needs of their employers.

Program Need

Graduates with the Certificate in Applied Science in Information Technology are employed nationally in numerous diverse businesses and organizations. Locally, this program addresses an unmet labor need of a variety of local businesses and organizations including food processing, cabinet manufacturing, healthcare, banking, educational institutions, high tech companies, educational institutions and other service organizations.

Upon successful completion of the program, 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

According to the U.S. Department of Labor (www.bls.gov):

Because of the wide range of skills for different computer support jobs, there are many paths into the occupation. A bachelor's degree is required for some computer support specialist positions, but an associate's degree or postsecondary classes may be enough for

others. After being hired, many workers enter a training program that lasts for several months.

Job Outlook

Employment of computer support specialists is expected to grow 18 percent from 2010 to 2020, about as fast as the average for all occupations. Job prospects should be favorable.”

2011 Metropolitan and Nonmetropolitan Area Occupational Employment and Wage Estimates, Winchester, VA-WV

These estimates are calculated with data collected from employers in all industry sectors in Winchester, VA-WV, a metropolitan statistical area that includes parts of Virginia and West Virginia.

| Occupation | Employment | Employment RSE | Employment per 1000 jobs | Location quotient | Median hourly wage | Mean hourly wage | Annual mean wage | Mean wage RSE |
|---|------------|----------------|--------------------------|-------------------|--------------------|------------------|------------------|---------------|
| <u>Computer Occupations, All Other*</u> | 110 | 0.0% | 2.087 | 1.51 | \$37.20 | \$38.51 | \$80,100 | 2.2% |
| <u>Network and Computer Systems Administrators*</u> | 70 | 9.6% | 1.259 | 0.47 | \$33.38 | \$33.76 | \$70,220 | 2.8% |
| <u>Computer Support Specialists</u> | 130 | 19.3% | 2.418 | 0.49 | \$21.47 | \$22.27 | \$46,310 | 2.8% |
| <u>Computer Programmers</u> | 50 | 18.3% | 1.031 | 0.41 | \$33.33 | \$33.80 | \$70,310 | 4.3% |

III. Assessment

The assessment of the Information Technology, Certificate in Applied Science 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.

- Throughout the program we expect to see a minimum of 80% of students completing courses that are attempted. Completers should demonstrate at least an average of 70% in each course through classroom assessments.
- Drop Rate: The drop rate is not expected to exceed 30%.
- Course-level effectiveness: Course outcomes for all of the IT courses will be assessed. At least four outcomes from each course will be assessed in each

assessment cycle. Exam questions linked to course learning outcomes will be included in the final exam.

- Persistence Rate: Students in the Information Technology, C.A.S. will be tracked throughout their certificate program to determine persistence through certificate completion.
- Graduation Rate: At least 70% of students enrolling in the IT, C.A.S. will successfully complete the certificate within a reasonable time based on full-time or part-time implementation. This will be measured by the number obtaining the Certificate.
- Syllabus Analysis: Syllabus analysis will be conducted on an annual basis to assure consistency of outcomes with Master Course Record Forms and among sections of specific courses.
- Transcript Analysis: Transcript analysis will be conducted as triggered by deficiencies in course level assessment activities.
- Advisory Committee Review: Annual advisory committee review will provide qualitative evaluation of program effectiveness in meeting regional paraprofessional educator needs.
- Course evaluation surveys will be used as indirect assessment measures of student success and satisfaction.
- Graduate Placement Rate: Tracking of students completing the Certificate will be done by a survey to determine the number of graduates obtaining employment in their field of study. The survey will include questions to collect data on location, salary, job preparedness, and reasons why graduates are not working in their field if applicable.

Courses in the program are being assessed on a cyclical basis. A minimum of four course learning outcomes are being selected from the targeted courses for evaluation. Dependent upon assessment findings, some outcomes will be assessed over multiple years to validate effectiveness of changes in curriculum or course materials. Exam questions addressing the target learning outcomes serve as indicators of student attainment of course learning outcomes. In the event that the minimum performance standard is not met, the unmet learning outcome will be targeted for further monitoring. The results may also trigger an evaluation of course materials supporting the learning outcome, revision of course materials or further curriculum revision. The information regarding the assessment is being shared with the faculty teaching the course.

IV. Curriculum

The Information Technology, C.A.S 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 in pursuing an AAS in Information Technology. Applicants with a high school diploma or GED are accepted into this program. All courses in the program are transferable to the AAS programs in Information Technology.

List of courses:

The course lists with credit hours are listed in Appendix I

Delivery modes:

Many courses in the program are offered in the form of face-to-face, online, hybrid and web-enhanced formats. Program courses like PC Repair and Trouble Shooting, Spreadsheet Software, Data Base Management Software, Networking, and programming languages which require a significant “hands on” component, are regularly offered in face-to-face format to assure development of application skills and to help struggling students.

V. Faculty

The IT Certificate Program currently utilizes part-time adjunct faculty for all of the IT courses. Typically, Eastern offers 3-4 courses in the fall and 4 in the spring semester. Eastern currently employs 5 adjunct faculty to teach IT related courses. Data on individual instructors, their education and courses taught are listed in Appendix II. All of the adjunct instructors have many years of professional experience, ranging from 7 – 30 years in industry and 1 to 25 years in educational settings. A typical adjunct will have more than 5 years of experience.

Appendix II contains additional information regarding faculty credentials

VI. Enrollment and Graduates

Enrollment data is provided in Appendix III.

Due to low number of graduates, there is as yet insufficient data in terms of places of employment, starting salary ranges, and numbers employed in the field of specialization. As more students graduate in the near future, there should be more relevant information available.

Graduate I: This graduate completed an AAS degree in IT in addition to Computer Applications Specialist, C.A.S. and Information Technology, C.A.S. She has been accepted to the BS program in Information Technology at American Public University. This graduate works in IT related field receiving \$12 an hour and has the goal of becoming an IT teacher/instructor.

Graduate II: This graduate completed an AAS degree in IT in addition to Computer Applications Specialist, C.A.S. and Information Technology, C.A.S. He has been accepted to the BS program in Information Technology at American Public University.

Graduate III: This graduate completed the program in spring of 2012. This graduate who is a minority is hoping to start his own computer repair shop. He might continue for an AAS in IT this coming fall.

VII. Financial

All required courses in the IT certificate are being offered through AAS programs in Business Management, Administrative Support Technology, and Information Technology. As a result, the cost of running these courses is very minimal and is fully absorbed by the AAS programs in Business Technologies.

Projection of future resource requirements and source of funding

There is sufficient enrollment in related AAS programs to sustain the Certificate in Information Technology. Courses like Spreadsheet Software and Data Base Management Software require the newest version of the software. The spreadsheet software (Excel) and make the following all lower case Date Base Management Software are upgraded once every three years and their cost is being absorbed by the IT department, which purchases license for office suite for the entire institution. Courses like PC Repair and Troubleshooting and Networking require software, computers and equipment. In the past several years, the director of the IT department of the college has been working closely with the academic director for business technology and has been allowing the IT instructors and students to utilize computer software, hardware and equipment of the IT department. Such cooperation has kept the cost of IT lab at minimal.

VIII. Advisory Committee

The advisory committee has been instrumental in determining the course curriculum and overall content. The advisory committee was integrally involved in all levels of program development from the initially conceptualization of the program, needs assessment and curriculum content. With implementation, the program courses are continually assessed and changed at the recommendation of both the faculty and the advisory committee. Students who are working in the field have also provided recommendations to strengthen the curriculum.

Advisory Committee members

| | |
|-----------------|--|
| Beth Ludwig | Director Small Business Development Center |
| Tyson Riggleman | American Woodmark Corp |
| Penny Reardon | Executive Dean |
| Ashley Anderson | Owner / Operator The Kaposy |
| Sharon Gallery | Owner / Operator Gallery Communications |

More members will be added to this advisory committee as the program expands and the college hires more faculty. An IBM staff will be recruited to serve on this committee.

IX. Accreditation

No accreditation process is available in this field of study.

APPENDIX I Required Courses

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 | 108 | Computer Fundamentals | 3 | CIS | 121 | Database Management Software | (3) |
| CIS | 154 | Management Information Systems | 3 | CIS | 133 | Designing a Web Page | 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 (100 level or higher) | 3 |
| Total Semester Hours | | | 15 | Total Semester Hours | | | 15 |

| 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 210 | Network Administration I | 3 |
| IT 215 | Network Administration II | 3 |
| IT 228 | Systems Analysis and Design | 3 |
| IT 233 | Introduction to Web Programming | 3 |
| IT 269 | Project Management | 3 |

APPENDIX II
Faculty Data

(No more than TWO pages per faculty member)

Name: Seyed Mirkhani

Rank: Instructor

Full-time:

Part-time: X

Highest Degree Earned: MS/MS/MS

Date Degree Received: 1998/2000/2008

Conferred by: Johns Hopkins University/Strayer University/Nova Southeastern University

Area of Specialization: Business Finance/Information Systems/Mathematics

Professional registration/licensure:

Yrs. of employment at present institution: 10+

Yrs. of employment in higher education: 10+

Yrs. of related experience outside higher education: 5+

Non-teaching experience: 20+

To determine compatibility of credentials with assignment:

- (a) List courses you taught this year and those you taught last year: (If you participated in team-taught course, indicate each of them and what percent of courses you taught.) For each course include year and semester taught, course number, course title and enrollment.

| Year / Semester | Course Number and Title | Enrollment |
|-----------------|--|------------|
| 2012 / Spring | CIS 108 - Computer Fundamentals | 80 |
| 2012 / Spring | IT 278 – IT Internship | 2 |
| 2012 / Spring | BUS 276 – Business Management Capstone (Team Taught 20%) | 4 |
| 2011 / Fall | CIS 108 – Computer Fundamentals | 40 |

If degree is not in area of current assignment, explain:

Approved by Assessment: 6-14-12 e-vote

Approved by LOT: 7-16-12 e-vote

Approved by Cabinet: 08/07/12

Approved by BOG: 8-14-12

APPENDIX II
Faculty Data

(No more than TWO pages per faculty member)

Name: Sharon Gallery
Rank: Instructor

Full-time:
Part-time: X

Highest Degree Earned: MBA
Date Degree Received: 1992

Conferred by: George Washington University

Area of Specialization: Business Management

Professional registration/licensure:
Yrs. of employment at present institution: 2.5
Yrs. of employment in higher education: 2.5
Yrs. of related experience outside higher education: 15 +
Non-teaching experience: N/A

To determine compatibility of credentials with assignment:

- (b) List courses you taught this year and those you taught last year: (If you participated in team-taught course, indicate each of them and what percent of courses you taught.) For each course include year and semester taught, course number, course title and enrollment.

| Year / Semester | Course Number and Title | Enrollment |
|-----------------|--------------------------------|------------|
| 2011 / Spring | CIS 121 / Database Management | 10 |
| 2011 / Spring | CIS 133 – Designing a Webpage | 10 |
| 2011 / Fall | CIS 119 – Spreadsheet Software | 8 |
| 2012 / Spring | CIS 121 – Database Management | 14 |
| 2012 / Spring | CIS 133 – Designing a Webpage | 9 |

If degree is not in area of current assignment, explain:

APPENDIX II

Faculty Data

(No more than TWO pages per faculty member)

Name: Shirley Murphy
Rank: Instructor

Full-time:
Part-time: X

Highest Degree Earned: MBA
Date Degree Received: 2003

Conferred by: Frostburg University

Area of Specialization: Business Administration

Professional registration/licensure:
Yrs. of employment at present institution: 8
Yrs. of employment in higher education: 8
Yrs. of related experience outside higher education: N/A
Non-teaching experience: 20+

To determine compatibility of credentials with assignment:

- (a) List courses you taught this year and those you taught last year: (If you participated in team-taught course, indicate each of them and what percent of courses you taught.) For each course include year and semester taught, course number, course title and enrollment.

| Year / Semester | Course Number and Title | Enrollment |
|-----------------|------------------------------------|------------|
| Spring 2012 | ACC 121/ Principles of Account. II | 10 |
| Spring 2012 | ACC 240 Computerized Account. | 10 |
| Spring 2012 | ECN 201 Principles of Micro | 19 |
| Fall 2011 | ACC 120/Principles of Account. I | 16 |
| Fall 2011 | ECN 202/ Principles of Macro. | 14 |
| Fall 2011 | BUS 101 / Intro to Business | 23 |
| Spring 2011 | ACC 121/ Principles of Account. II | 5 |
| Spring 2011 | ACC 240 Computerized Account. | 10 |
| Spring 2011 | ECN 201 Principles of Micro | 22 |
| | | |

If degree is not in area of current assignment, explain: N/A

APPENDIX II

Faculty Data

(No more than **TWO** pages per faculty member)

Name: Mahmudur Bhuiya

Rank: Instructor

Full-time:

Part-time: X

Highest Degree Earned: MS/MBA

Date Degree Received: 2004/2010

Conferred by: Purdue University/Indiana University

Area of Specialization: Applied Computer Science/Business Management

Professional registration/licensure:

Yrs. of employment at present institution: 3

Yrs. of employment in higher education: 6

Yrs. of related experience outside higher education

Non-teaching experience: 6

To determine compatibility of credentials with assignment:

- (a) List courses you taught this year and those you taught last year: (If you participated in team-taught course, indicate each of them and what percent of courses you taught.) For each course include year and semester taught, course number, course title and enrollment.

| Year / Semester | Course Number and Title | Enrollment |
|-----------------|------------------------------------|------------|
| 2011 / Spring | IT 194 – Intro to Programming Java | 4 |
| 2011 / Fall | IT 194 – Intro to Programming Java | 8 |

If degree is not in area of current assignment, explain:

Approved by Assessment: 6-14-12 e-vote

Approved by LOT: 7-16-12 e-vote

Approved by Cabinet: 08/07/12

Approved by BOG: 8-14-12

**APPENDIX II
Faculty Data**

(No more than TWO pages per faculty member)

Name: John Holmes
Rank: Instructor

Full-time:
Part-time: X

Highest Degree Earned: MBA
Date Degree Received: 2001

Conferred by: St. Edwards University Austin, TX

Area of Specialization: Business Management

Professional registration/licensure:
Yrs. of employment at present institution: 6
Yrs. of employment in higher education: 6
Yrs. of related experience outside higher education: 5
Non-teaching experience: 5

To determine compatibility of credentials with assignment:

- (a) List courses you taught this year and those you taught last year: (If you participated in team-taught course, indicate each of them and what percent of courses you taught.) For each course include year and semester taught, course number, course title and enrollment.

| Year / Semester | Course Number and Title | Enrollment |
|-----------------|------------------------------------|------------|
| 2011 / Spring | BUS 203 – Communications in Bus. | 9 |
| 2011 / Fall | BUS 101 – Introduction to Business | 14 |
| 2012 / Spring | BUS 203 – Communications in Bus. | 10 |
| 2012/ Spring | MGT 250 – Principles of MGT | 11 |

If degree is not in area of current assignment, explain:

APPENDIX II
Faculty Data

(No more than TWO pages per faculty member)

Name: Salim Bhuiyan
Rank: Instructor

Full-time:
Part-time: X

Highest Degree Earned: MS
Date Degree Received: 2009

Conferred by: Purdue

Area of Specialization: Computer Science

Professional registration/licensure:
Yrs. of employment at present institution: 3
Yrs. of employment in higher education: 3
Yrs. of related experience outside higher education: 3
Non-teaching experience: N/A

To determine compatibility of credentials with assignment:

- (a) List courses you taught this year and those you taught last year: (If you participated in team-taught course, indicate each of them and what percent of courses you taught.) For each course include year and semester taught, course number, course title and enrollment.

| Year / Semester | Course Number and Title | Enrollment |
|-----------------|-------------------------------------|------------|
| Spring 2011 | IT 228 - System Analysis and Design | 2 |
| Spring 2011 | IT 269 - Project Management | 2 |
| Fall 2011 | IT 228 - System Analysis and Design | 7 |
| Fall 2011 | IT 269 - Project Management | 5 |
| Spring 2012 | IT 228 - System Analysis and Design | 5 |
| Spring 2012 | IT 269 - Project Management | 2 |

If degree is not in area of current assignment, explain:

APPENDIX II
Faculty Data

(No more than TWO pages per faculty member)

Name: Ashley Anderson
Rank: Instructor

Full-time:
Part-time: X

Highest Degree Earned: MBA
Date Degree Received: 2009

Conferred by: West Virginia Wesleyan

Area of Specialization: Business Management

Professional registration/licensure:
Yrs. of employment at present institution: 1
Yrs. of employment in higher education: 1
Yrs. of related experience outside higher education: 3
Non-teaching experience: N/A

To determine compatibility of credentials with assignment:

- (a) List courses you taught this year and those you taught last year: (If you participated in team-taught course, indicate each of them and what percent of courses you taught.) For each course include year and semester taught, course number, course title and enrollment.

| Year / Semester | Course Number and Title | Enrollment |
|-----------------|--------------------------------|------------|
| 2011 / Fall | CIS 119 - Spreadsheet Software | 10 |
| 2012 / Spring | BUS 206 – Business Law | 7 |
| 2012 / Spring | CIS 119 - Spreadsheet Software | 15 |

If degree is not in area of current assignment, explain:

APPENDIX III

Headcount and Statistics on Graduates

Three year trend data on graduates and majors enrolled:

| Number of Majors and Graduates by Term | | | | |
|---|----------------------|---------------------|------------|------------------|
| Academic Term | Majors | Credit Hours | FTE | Graduates |
| Fall 2009 | 0 | 0 | 0 | 0 |
| Spring 2010 | 0 | 0 | 0 | 0 |
| Summer 2010 | 0 | 0 | 0 | 0 |
| Fall 2010 | 1 | 9 | .6 | 0 |
| Spring 2011 | 1 | 12 | .8 | 2 |
| Summer 2011 | 0 | 0 | 0 | 0 |
| Fall 2011 | 2 | 15 | 1.0 | 0 |
| Spring 2012 | 3 | 41 | 2.7 | 1 |
| Total | 7 (duplicated HC) | 77 | 5 | 3 |

Enrollment in Technical Core

| | Fall | Spring | Fall | Spring | Fall | Spring | Total | Total |
|----------------|-------------|---------------|-------------|---------------|-------------|---------------|--------------|--------------|
| | 2009 | 2010 | 2010 | 2011 | 2011 | 2012 | HC | FTE |
| CIS 119 (3 Cr) | 25 | 11 | 15 | 3 | 18 | 15 | 87 | 5.8 |
| CIS 121 (3 Cr) | 0 | 25 | 0 | 16 | 0 | 14 | 55 | 3.7 |
| CIS 133 (3 Cr) | 0 | 17 | 0 | 10 | 0 | 9 | 36 | 2.4 |
| CIS 154 (3 Cr) | 0 | 0 | 16 | 0 | 0 | 0 | 16 | 1.1 |
| IT 180 (3 Cr) | 0 | 0 | 0 | 18 | 0 | 11 | 29 | 1.9 |