

September 2017

### Community College Consortium Develops Competency-Based Programs of Study in Information Technology

- Redesigning curricula to accommodate the individual needs and skills of adult learners from varied backgrounds
- Aligning curricula with industry-identified competencies and skill needs
- Providing flexible scheduling and student support to facilitate student success through stackable credentials

#### Introduction

Is there a better way to develop and deliver education for adult learners than the traditional format that is based solely on the accumulation of credits to attain certificates and degrees? Research has demonstrated that adult learners respond to a more flexible approach that adapts to their differing backgrounds and abilities and enables them to demonstrate their knowledge and skills at their own pace to attain industry credentials.<sup>1</sup>

Sinclair Community College (SCC) in Dayton, Ohio, the lead educational institution of a three-state Round 2 Trade Adjustment Assistance and Community College Career Training (TAACCCT) grant, responded to that challenge. Along with Austin Community College (Texas) and Broward College (Florida), the three colleges adapted a competency-based education (CBE) approach to accelerate information technology (IT) learning at their institutions.

The CBE model focuses learning on workforce-aligned competencies and is flex-paced, enabling students to learn anytime, anywhere, and at their preferred speed. CBE is designed to release new content as the student demonstrates mastery of the previous topic in the course, providing for a seamless transition of topics and lessons. The CBE model accommodates the varied backgrounds and abilities of individual students.<sup>2</sup>

#### Workforce Need

From a national perspective, the outlook for information technology (IT) occupations is strong, particularly for workers who obtain industry-recognized credentials. National employment projections from the Bureau of Labor Statistics indicate that employment opportunities in computer occupations will increase by 12.5% between 2014 and 2024, almost double the average of 6.5% for all occupations. More specifically, employment opportunities for information security analysts are expected to increase by 17.9% during that time period, significantly more than the national average for all occupations. Opportunities for software developers and computer network support specialists are projected to increase by 12.5% and 7.5%, respectively, both exceeding the national average for all occupations.<sup>3</sup>

#### Approach

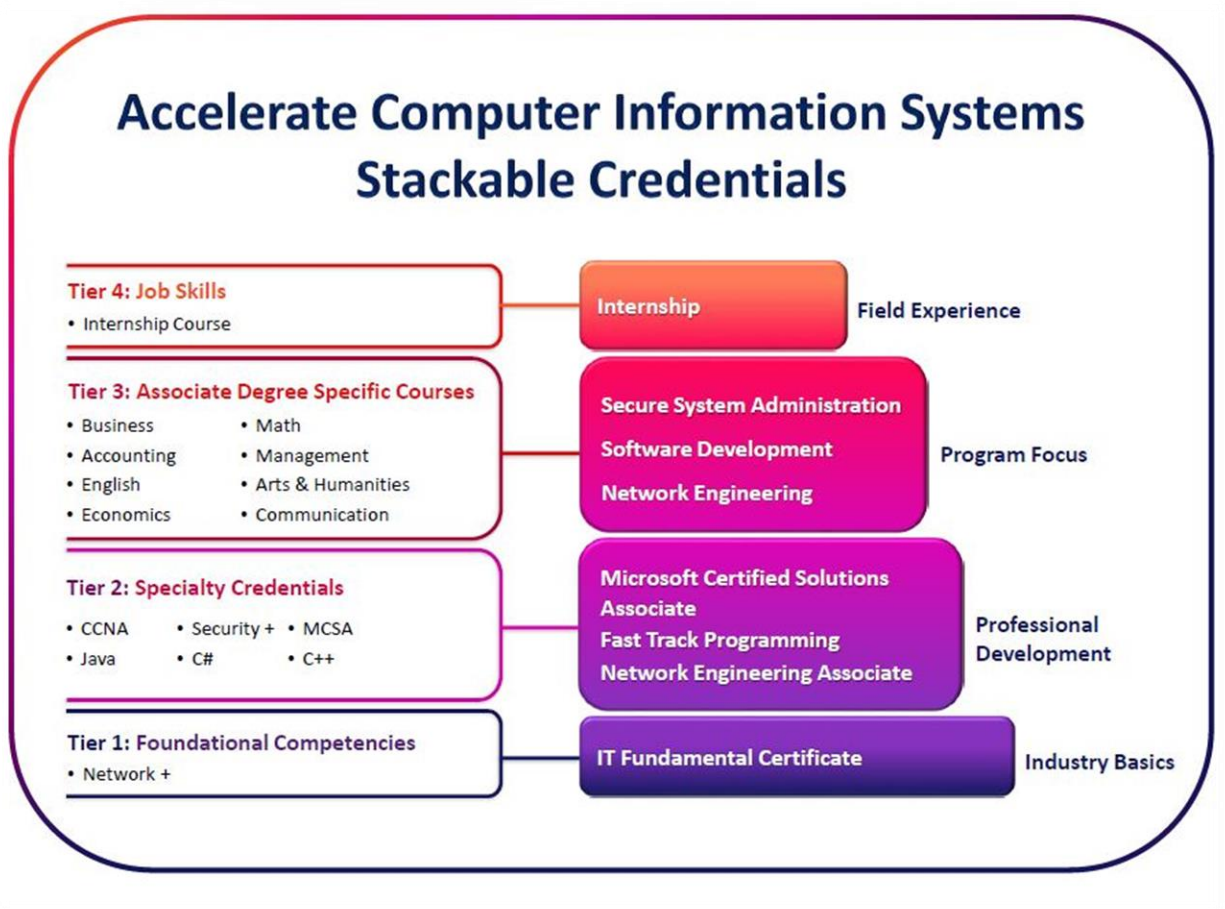
“IT was an easy choice for implementing the CBE approach because our program of study needed to be updated because of the quick evolution of the industry in Ohio,” says Christina Amato, CBE Program Manager, SCC. “There were four key components to the CBE model that we developed at the three consortium colleges:

<sup>1</sup> *Teaching Excellence in Adult Literacy*, TEAL Center Fact Sheet No. 11: Adult Learning Theories, [https://lincs.ed.gov/sites/default/files/11\\_%20TEAL\\_Adult\\_Learning\\_Theory.pdf](https://lincs.ed.gov/sites/default/files/11_%20TEAL_Adult_Learning_Theory.pdf)

<sup>2</sup> *Strategies for Transformative Change*, <http://occr.illinois.edu/docs/librariesprovider4/tci/strategies-for-transformative-change/sinclair.pdf>

<sup>3</sup> Bureau of Labor Statistics, Employment Projections, [https://www.bls.gov/emp/ep\\_table\\_102.htm](https://www.bls.gov/emp/ep_table_102.htm)

curriculum redesign, workforce partnerships, program delivery and student support. At SCC, we converted our existing AAS IT programs for CBE delivery, informed by state industry standards and the forecasted needs of regional employers. This resulted in a four-tier stackable credentials model beginning with foundational competencies and culminating with an industry internship.”



Source: Christina Amato, CBE Program Manager, Sinclair Community College

All three colleges developed formal relationships with industry partners and other workforce entities. At SCC, the regional IT trade association developed surveys and tools to determine what employers needed now and what their projected needs were. “We also used grant funds to underwrite a position at our local American Job Center,” says Ms. Amato. “This ‘boots on the ground’ approach gave us the opportunity to interact directly with Center staff and job seekers. We also sponsored ‘reverse’ job fairs in which students marketed themselves to employers. Employers came and ‘shopped’ students and conducted interviews on the spot.”

The consortium colleges provide for flexible entry and completion of courses. A semester-compatible flexible start system was designed and integrated into existing course scheduling, staffing and financial aid processes at each consortium school.<sup>4</sup> “Life happens,” says Ms. Amato. “Our courses are flexible enough to adjust if there’s a problem. It’s about outcomes, not deadlines.”

<sup>4</sup> Strategies for Transformative Change, <http://ocrl.illinois.edu/docs/librariesprovider4/tci/strategies-for-transformative-change/sinclair.pdf>

As a final component, implementation of the CBE model included new processes for both recruiting and supporting students. At SCC, prospective students are required to demonstrate computer literacy and complete an orientation. In addition, academic coaches were hired to provide students with support in the flexible paced program.<sup>5</sup>

### **Return on Investment**

Data provided by SCC's Research, Analytics and Reporting Division indicates that the return on investment has been substantial. Nine hundred unique students have taken more than 1,800 CBE courses at SCC since 2013; nearly 600 of those students are adult learners. When compared to the same courses offered in online or face-to-face format, course success rates average 15% higher and credentialing rates are twice as high in CBE programs. Average time to degree completion in the IT CBE programs during the TAACCCT grant period was just four terms. A student studying full time would typically take six terms, which few are able to do. Average community college students work full time and attend part time and, as a result, typically take about five years to complete an AAS degree. Average time to course completion across all CBE courses is between 70-80 days; a typical semester in other formats averages about 110 days. CBE students are mapped to an internship in their program of study immediately upon enrolling for the first time. As a result, they plan longer-range and more efficiently for internships and are ten times more likely to take one than other students. Internship-to-hire rates are 90%.

"We are very proud of our students' successes," says Ms. Amato. "For example, a student who served seven years in Iraq as a network engineer was unable to find work when she returned to the U.S. because she lacked an industry credential. At SCC, she was able to pursue a dual major. This enabled her to rapidly accelerate from her prior learning, plug in her skill gaps, and attain the credential needed for gainful employment."

### **Next Steps**

"Everything we did in our TAACCCT grant still exists today," says Ms. Amato. "This was very important for accreditation. Our accreditor, the Higher Learning Commission, approved our CBE curriculum which helped Sinclair expand development into additional programs. In addition, our TAACCCT grant model was recognized as the CBE model for the state by the Ohio Department of Education in their annual report this year, which was dedicated to competency-based education.<sup>6</sup> Our State Steering Committee charged us with creating a toolkit for other institutions to start a CBE approach and will convene in September of this year to review our efforts."

### **Related Links**

Sinclair Community College  
<http://www.sinclair.edu>

Strategies for Transformative Change  
<http://occril.illinois.edu/docs/librariesprovider4/tci/strategies-for-transformative-change/sinclair.pdf>

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<sup>5</sup> Ibid

<sup>6</sup> Ohio Department of Higher Education, 9th Report on the Condition of Higher Education in Ohio, 2016,  
<https://www.ohiohighered.org/board/condition-report>