

Computer Technology Advisory Board Meeting November 3, 2022

Attendees

Steven Melton, GDIT
Jennifer Tramel, GDIT
Eddie Horton, Northwestern State
Marie Kalmbach, Bossier Parish School
for Technology & Innovative Learning
(BPSTIL)
Wendi Plants, Bossier Parish Schools
Doug Scott, Bossier Parish Schools
Stacey Stewart-Sweat, CyberReef
Solutions
Kevin Nolten, Cyber Innovation Center
Shocker Creal, City of Shreveport
(Information Technology)
Jacob Davenport, Ingalls
Bill Allred, Citizens National Bank
Julie Lessiter, LSUS

Bill Bell, City of Bossier City
Paul Spivey, BPCC
Raymond Gaines, BPCC
Amy Russell, BPCC
Stormy Epps, BPCC
Casey Harvill, BPCC
Eric Freeman, BPCC
Paul Weaver, BPCC
Quentin Calhoun, BPCC
Randy Haley, BPCC
Rhonda Neil, BPCC
Steven Turner, BPCC
Vladimir Chaynikov, BPCC
Sharonda Mickle, BPCC
Megan Bange, BPCC
Wesley Bange, BPCC

The 2022-2023 CTEC advisory board meeting was called to order by Paul Spivey, Dean of Business and Information Technology, at 11:03 am. This advisory board was held in the fashion of a round table discussion with the industry partners as well as the faculty and staff of Bossier Parish Community College and other colleges and universities. A Power Point was emailed prior to the meeting so that all would be familiar with agenda. The following agenda was built for this meeting:

- Welcome and Program Updates 10-15 minutes
 - Welcome and General Updates
 - CAE (Center for Academic Excellence) Update
 - Grant Initiatives Update
 - Fiber Optics Update
 - LACEC (Louisiana Cyber Education Center) Update
- Discussion Items 25-30 minutes
 - Employer needs/certifications/tools/training
 - Software Development, AAS and Software Applications, CTC
 - Computer Information Systems, AAS
 - Data Analytics, CTC
 - Linux, CTC
 - Virtualization, CTC
- Voting Items 5 minutes

Paul Spivey began the meeting with the welcome and introductions of those in attendance.

- Welcome and General Updates
 - BPCC from 6 Divisions to 4 with Business and Information Technology (BIT) being created and consisting of:
 - Business and Healthcare Management
 - Information Technology
 - Culinary
 - Cosmetology (Natchitoches Campus)
 - Students enrolled are up approximately 350 collectively over the programs
 - Associate Degrees offered (2-year or 60 hours)
 - Computer Information System
 - Cyber Security
 - Software Development
 - Systems Administration – 2 concentrations
 - Cloud Computing
 - DevOps
 - CTS (Certificate in Technical Studies) 16-33 credit hours
 - CTC (Career and Technical Certificate 6-15 credit hours)
 - The board was advised that the CTS and CTC can be developed to meet the demands of the employer to meet hiring needs
 - CAE (Center for Academic Excellence) Update
 - Chris Rondeau, was not in attendance but was thanked for all of his hard work and efforts
 - NCAE-CD program aims to create and manage a collaborative cybersecurity educational program that:
 - Establishes standards for cybersecurity curriculum
 - Competency development among students and faculty
 - Values community outreach and leadership
 - Integrates cybersecurity practice across academics
 - Actively engages in solutions to challenges facing cybersecurity education.
 - The CAE-CD designation was approved through 2027
 - Grant Initiatives Update
 - **LED Grant** - Year 8
 - 77 industry-based credentials earned
 - 23 newly employed IT professionals
 - **CyberStart** - 15 participants
 - Assistance (tuition, vouchers, stipend)
 - **SCILS**: STEM Collective for Innovation Louisiana Stakeholders
 - Dual Enrollment and Cyber High School Day
 - Fiber Optics Update
 - Created the CTC in Fiber Optics Technology
 - Three courses (9 total credit hours)
 - Mapped to certifications from the Fiber Optics Associate (FOA)
 - Interviewing for Fiber Optics instructor to teach both credit and noncredit
 - Applying for broadband grant

- Noncredit classes offered this November

- LACEC (Louisiana Cyber Education Center) Update – at this time, we are currently interviewing for Project Director position

The meeting was opened for discussion

- Discussion Items (25-30 minutes)
 - Employer needs/certifications/training
 - The surplus of talent and not jobs where other communities have the jobs and the lack of talent
 - Middle management employees are needed and how do we grow
 - The need to bring companies to our area
 - The pay scale of the area is not acceptable for recruitment of employees or companies
 - Paradox of employment: you can not get the job without experience and you can not get the job to gain experience
 - Younger students need to be involved to make sure that they are interested and confident in that is what the career they want
 - More recognition in specialization of technical skills
 - Interns
 - They are needed
 - Can allow students to get that needed experience
 - Lets both the employer and intern see if they are a good match
 - There is no expectation of the employer to hire the intern, would be great, but no expectation
 - What skills (if any) are lacking from recently hired graduates
 - Core knowledge of the hierarchy is missing
 - The basic knowledge of how to make things work
 - Cyber ranges and virtual environments could be helpful. Making A's on exams and certification tests does not mean knowledge
 - Convert knowledge to actual work
 - Some employers would rather hire no experience with ability to solve problems than one with all of the available certifications
 - The lack of hours, especially lab hours for both face to face and online students, is hindering learning
 - Statistics class was suggested to allow student to learn how to deal with the data that they have been given
 - Possibly develop a contextualized math course and work with other universities on the ability to transfer

The meeting was handed over to the program directors to discuss requested changes with their program. First introduced was Steven Turner, Program Director for Software Development. Steven discussed and explained the requested changes for the Software Development program.

- Software Development, AAS
 - Merge CTEC 150: Introduction to Programming with Java and CTEC 151: Advanced Java Programming. Add elective course in place of merged class.
 - Add CTEC elective options:

- CTEC 170: Microsoft Windows Servers
- CTEC 172: Linux Servers
- CTEC 112: IT Hardware Support
- CTEC 114: IT Software Support
- CTEC 155: Network Essentials
- CTEC Software Development specific course - students choose between 2 of 3.
- CTEC 235: Mobile App Development
- CTEC 259: Server-Side Web Development
- CTEC 260: Interactive Program Design
- Software Applications, CTC
 - Merging CTEC 150 and CTEC 151 allows second CTEC elective
 - Choose two of the following:
 - CTEC 250: Programming with C#
 - CTEC 235: Mobile App Development
 - CTEC 243: Data Structures
 - CTEC 259: Server-Side Web Development
 - CTEC 260: Interactive Program Design

Dr. Paul Weaver, Program Director for Computer Information Systems, was the next to speak to the group. Dr. Weaver explained the changes to the CIS program allowing students to focus on their track and obtain additional CTC's.

- Computer Information Systems, AAS
 - Change CTEC 263: Cloud+ to an elective allowing students to use two electives to focus on their track and obtain the following:
 - CTC Cloud Computing (CTEC 263 and 264)
 - CTC Network Security AND CTS Information Systems Security Professionals (CTEC 280 and 287)
 - CTC Web Design (CTEC 130 and 149)
 - CTC Linux Server (Courses - TBD) - *if approved*
 - CTC Virtualization (Courses - TBD) - *if approved*
 - CTC Data Analytics Server (Courses - TBD) - *if approved*
- Data Analytics, CTC
 - Courses for the Data Analytics, CTC
 - CTEC 101: Information Technology Principles
 - CTEC 102: Problem Solving & Programming Techniques
 - CTEC 108: Intro to Management Information Systems
 - CTEC 270: Relational Data Base Coding
 - CTEC 274: Data Analytics

Paul Spivey explained that CTEC 274 was mapped to the CompTIA Data + certification, CTEC 101 was mapped to CompTIA IT Fundamentals, CTEC 102 was the course where Python was taught, CTEC 108 is a pre-requisite for CTEC 174.

Randy Haley, Program Director for System Administration (SysAdmin), explained the need for the addition of the Linux, CTC as well as the Virtualization, CTC. Randy explained that CTEC 272 would be adding Ansible. This is automation and would allow programming of automated services.

- Linux, CTC
 - Courses for the Linux, CTC
 - CTEC 104: Introduction to Scripting
 - CTEC 155: Network Essentials
 - CTEC 172: Linux Server
 - CTEC 272: Advanced Topics in Linux – (adding Ansible)

- Virtualization, CTC
 - Courses for the Virtualization, CTC
 - CTEC 114: IT Software Support
 - CTEC 155: Network Essentials
 - CTEC 165: Introduction to Virtualization
 - CTEC 170: Microsoft Windows Servers
 - CTEC 263: Cloud+

Voting Items and results

- Voting Items - Paul Spivey advised the industry partners that they would be receiving a link from survey monkey to record their vote along with any comments on the attached proposals.

Vote 1: Approved

Merge CTEC 150: Introduction to Programming with Java and CTEC 151: Advanced Java Programming. Add elective course in place of merged class.

Rationale: Course content would flow better if covered in one continuous class as opposed to keeping it separate between the two classes. All learning objectives would still be covered. This change would also give more flexibility for electives.

Vote 2: Approved

Add the following CTEC electives as options to take in addition to the ones below. CTEC 170: Microsoft Windows Servers CTEC 172: Linux Servers CTEC 112: IT Hardware Support CTEC 114: IT Software Support CTEC 155: Network Essentials *Existing elective options include: CTEC 279: Information Assurance CTEC 285: Health Informatics for IT Professionals CTEC 282: Information Technology Project Management CTEC 263: Cloud+ CTEC 104: Introduction to Scripting CTEC 165: Introduction to Virtualization.

Rationale: Provides more flexibility in elective options and more areas of interest for the student.

Vote 3: Approved

Give the students the option to take 2 of the 3 Software Development elective specific courses. CTEC 235: Mobile App Development CTEC 259: Server-Side Web Development CTEC 260: Interactive Program Design.

Rationale: Provide more flexibility to students with programming specific elective options.

Vote 4: Approved

To reapprove existing hours (60) and learning outcomes for the AAS Software Development degree program. Learning Outcomes: Recipients will be able to:

- A. develop original programs using creative problem solving;
- B. debug and test software;
- C. describe, implement and use common software algorithms and data structure;
- D. apply Object Oriented Programming principles such as Encapsulation, Inheritance, Polymorphism, and Design Patterns;
- E. collaborate on coding projects using tools such as AGILE, version control systems and basic communication skills; and
- F. develop applications for multiple platforms.

Vote 5: Approved

With the merger of CTEC 150 and 151, an open course is created. Vote to approve a second Software Applications Elective option choosing between the elective list currently in use. New program would look as follows: CTEC 102: Problem Solving and Programming Techniques CTEC 151: Advanced Java Programming *Software Applications, CTEC Elective Course *Software Applications, CTEC Elective Course (New Change) Elective Options* CTEC 250: Programming with C# CTEC 235: Mobile App Development CTEC 243: Data Structures CTEC 259: Server- Side Web Development CTEC 260: Interactive Program Design.

Rationale: Provide more flexibility to students with elective options.

Vote 6: Approved

Approve the development of the CTC in Data Analytics. The program would include the following courses. CTEC 101: Information Technology Principles (CompTIA ITF+) CTEC 102: Problem Solving & Programming Techniques (Python) CTEC 108: Intro to Management Information Systems CTEC 270: Relational Database Coding (SQL) CTEC 274: Data Analytics (CompTIA Data+).

Rationale: Provide more credential and employment opportunities. CTEC 101 is the prerequisite to CTEC 108 which is the prerequisite course to CTEC 274. CTEC 102 is the prerequisite to CTEC 270.

Vote 7: Approved

Approve the development of the CTC in Virtualization. The program would include the following courses. CTEC 114: IT Software Support (CompTIA A+ Core 2) CTEC 155: Network Essentials (CompTIA Network+) CTEC 165: Introduction to Virtualization CTEC 170: Microsoft Windows Servers CTEC 263: Cloud+ (CompTIA Cloud+).

Rationale: Provide more credential and employment opportunities. CTEC 155 is the prerequisite to CTEC 263. CTEC 114 is the prerequisite to CTEC 170.

Vote 8: Approved

Approve the development of the CTC in Linux. The program would include the following courses. CTEC 104: Introduction to Scripting (PowerShell) CTEC 155: Network Essentials (CompTIA Network+) CTEC 172: Linux Server CTEC 272: Advanced Topics in Linux.

Rationale: Provide more credential and employment opportunities. CTEC 155 is the prerequisite to CTEC 172 which is the prerequisite to CTEC 272.

Vote 9: Approved

Change CTEC 263: Cloud+ to a CTEC elective allowing students to have two CTEC electives to focus on one of the below tracks: CTC Cloud Computing (CTEC 263 and 264); CTC Network Security; AND CTS Information Systems Security Professionals (CTEC 280 and 287); CTC Web Design (CTEC 130 and 149); and CTC Data Analytics (CTEC 270) - If approved

Rationale: Provide more flexibility to students with CTEC elective options.

Vote 10: Approved

To reapprove existing hours (60) and learning outcomes for the AAS Computer Information Systems degree program. Learning Outcomes: Recipients will be able to:

- A. accurately read and communicate technical information;
- B. analyze current technology issues;
- C. develop solutions to technology issues;
- D. demonstrate skills for entry-level employment in information technology; and
- E. identify basic business terminology, concepts, and principles.

Vote 11: Approved

To reapprove existing hours (60) and learning outcomes for the AAS Cyber Security degree program. Learning Outcomes: Recipients will be able to:

- A. read and interpret technical literature and convey technical information through verbal and written communication;
- B. analyze critically and solve real-world security issues understanding the legal and ethical concerns;
- C. demonstrate security awareness in order to react to new developments in their field;
- D. utilize critical thinking skills to collect, analyze, and interpret technical data collected through investigation and experimentation; and
- E. implement computer networks and firewalls both physically and logically.

Vote 12: Approved

To reapprove existing hours (60) and learning outcomes for the AAS Systems Administration degree (Cloud Computing) program. Learning Outcomes: Recipients will be able to:

- A. read and interpret technical literature and convey technical information through verbal and written communication;
- B. apply the concepts, characteristics, delivery models, benefits of cloud computing;

- C. demonstrate an understanding of access controls used in on-premise and cloud networks;
- D. utilize critical thinking skills to collect, analyze, and interpret system logs and user audits; and
- E. apply best security practices to secure cloud and on- premise hosts, and the network infrastructure.

Vote 13: Approved

The merger of CTEC 150: Introduction Programming with Java with CTEC 151: Advanced Java Programming created an open spot for a course. This vote would add CTEC 107 (Skills for IT Success) in its place.

Rationale: CTEC 107 is a first semester course in all other AAS degree plans. This would provide uniformity to the first semester core taken by all students and provide employability/soft skills within the context of IT.

Vote 14: Approved

Replace CTEC 299: CTEC Internship with CTEC 295: Software Development Process and replace CTEC Elective with CTEC 243: Data Structures (the prerequisite course to CTEC 295)

Rationale: The CTEC 295 course is the Software Development capstone. Data Structures is a prerequisite to it. These changes better define the course sequence for a DevOps professional.

Vote 15: Approved

To reapprove existing hours (60) and learning outcomes for the AAS Systems Administration degree (DevOps) program. Learning Outcomes: Recipients will be able to:

- A. read and interpret technical literature and convey technical information through verbal and written communication;
- B. apply the concepts, characteristics, delivery models, benefits of cloud computing;
- C. demonstrate an understanding of access controls used in on-premise and cloud networks;
- D. utilize critical thinking skills to collect, analyze, and interpret system logs and user audits; and
- E. apply best security practices to secure cloud and on- premise hosts, and the network infrastructure.

Vote 16: Approved

The merger of CTEC 150: Introduction Programming with Java with CTEC 151: Advanced Java Programming created an open spot for another course in the Programming for Digital Gaming program. This vote would add a second elective using the following list of classes. CTEC 104; CTEC 107; CTEC 170; CTEC 172; CTEC 243; CTEC 259; CTEC 263; or CTEC 270.

Rationale: Provides more flexibility within the program for elective options.

PowerPoint presentation, voting results, and audio minutes are available upon request.