Louisiana Community & Technical College System

265 South Foster Drive
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www.lctcs.edu

LOUISIANA COMMUNITY & TECHNICAL COLLEGE SYSTEM

APPROVED
LCTCS BOARD OF SUPERVISORS
10/9/19

TO: Dr. Monty Sullivan
LCTCS President

THROUGH: Dr. René Cintrón
Chief Education and Training Officer

FROM: Dr. Adrienne Fontenot
Director of Adult Learning and Educational Programs

DATE: September 23, 2019

SUBJECT: LCTCS Cloud Computing Program

FOR BOARD ACTION:

Recommendation: Staff recommends that the Board approve the following program revisions listed below.

Program Revisions at Bossier Parish Community College

1. Associate of Applied Science (AAS) in Systems Administration with a concentration in Cloud Computing (CIP 11.0902) – **5 STARS**

Program Revisions at Baton Rouge Community College

2. Associate of Applied Science (AAS) in Computing and Information Technology with a concentration in Cloud Computing (CIP 11.0902) – **5 STARS**

Program Revisions at Central Louisiana Technical Community College

3. Associate of Applied Science (AAS) in Technical Studies with a concentration in Cloud Computing (CIP 11.0902) – **5 STARS**

Program Revisions at Louisiana Delta Community College

4. Associate of Applied Science (AAS) in Full Stack Cloud Developer (CIP 11.0902) – **5 STARS**

Program Revisions at South Louisiana Community College

5. Associate of Applied Science (AAS) in Information Technology (CIP 11.0902) – **5 STARS**
    a. Certificate of Technical Studies (CTS) in Cloud Computing Specialist (CIP 11.0902) – **5 STARS**

Program Revisions at SOWELA Technical Community College

6. Associate of Applied Science (AAS) in Information Systems Technology with a concentration in Cloud Computing (CIP 11.0902) – **5 STARS**

Background: In May 2019, Governor Edwards announced a collaboration between the LCTCS and Amazon Web Services (AWS) to unlock new opportunities for cloud computing in Louisiana. The LCTCS two-year cloud computing degree program is built with short-term, high value certificates to address the growing number of tech

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employers throughout Louisiana and the demand for employees with cloud computing skills.

Academic and workforce representative from each of the LCTCS colleges worked with AWS to establish Cloud Computing program. Each college is using content and resources from AWS Educate and AWS academy to support their cloud programs.

Fiscal Impact: N/A

History of Prior Actions: In June 2019, the LCTCS Board of Supervisors approved Delgado's Associate of Applied Science (AAS) and Career and Technical Certificate (CTC) in Cloud Computing. In August 2019, the LCTCS Board of Supervisors approved Northshore Technical Community College's Career and Technical Certificate (CTC) in Cloud Computing with an IBC in Cloud Practitioner from Amazon Web Services.

Benefits to the System: LCTCS colleges are partnering with Louisiana high schools and four-year universities to build a pathway for students to access these cloud programs. These relationships establish a pipeline for continuous enrollment and completion ensuring that Louisiana will develop the qualified workforce needed to attract employers.

Monty S

Approved for Recommendation to the Board
Dr. Monty Sullivan

10-09-19

Date

Baton Rouge Community College
201 Community College Dr.
Baton Rouge, LA 70806
(225) 216-8000
www.mybrcc.edu

To: René Cintrón, Ph.D.
Chief Education and Training Officer
The Louisiana Community and Technical College System (LCTCS)
265 South Foster Drive
Baton Rouge, Louisiana 70806

From: Laura Younger, M.S.
Vice Chancellor for Academic and Student Affairs
Baton Rouge Community College

Subject: Computing and Information Systems Associate of Applied Science (11.0501); New courses for Cloud Computing concentration

CSCI 1953, Society and Ethics in Computing. CIP Code 11.0801. Lecture Hours 3, Lab Hours 0, Credit Hours 3. Prerequisites: Eligibility for ENGL 1013. Co-requisites: CSCI 1973. Suggested Enrollment Cap: 30. Effective Spring 2020.
Course Description: Introduces students to computer and information ethics, ethical decision making techniques, and societal implications of technology in real world situations. The course will focus on layout and styling, client side interaction and server side interaction.
Note: this course replaces CSCI 1952, added earlier this yea.

CSCI 1993, Advanced Database Storage and Management. CIP Code 15.1204. Lecture Hours 3, Lab Hours 0, Credit Hours 3. Prerequisites: CSCI 1823 (Introduction to Database Design) with a grade of "C" or better. Co-requisites: None. Suggested Enrollment Cap: 30. Effective Spring 2020.
Course Description: Provides in-depth instruction in the handling of critical tasks of planning and implementing large databases. Includes an introduction to concepts of advanced data warehousing and database configuration.

CSCI 2113, Cloud Computing Foundations. CIP Code 11.0101. Lecture Hours 3, Lab Hours 0, Credit Hours 3. Prerequisites: CSCI 1923 (Introduction to Programming: Logic and Design) with a grade of "C" or better. Co-requisites: none. Suggested Enrollment Cap: 30. Effective Spring 2020.
Course Description: Focuses on cloud infrastructure, deployment, security models, and the key considerations in migrating to cloud computing. Covers the technologies and processes required to build traditional, virtualized, and cloud data center environments, including computation, storage, networking, desktop and application virtualization, business continuity, security, and management.

CSCI 2653, Virtual Infrastructure: Installation and Configuration. CIP Code 11.1001. Lecture Hours 3, Lab Hours 0, Credit Hours 3. Prerequisites: CSCI 2113 with a grade of "C" or better. Co-requisites: none. Suggested Enrollment Cap: 30. Effective Spring 2020.
Course Description: Explores concepts and capabilities of virtual architecture with a focus on the installation, configuration, and management of a virtual infrastructure, Elastic Sky X (ESX) Server, and Virtual Center. Covers fundamentals of virtual network design and implementation, fundamentals of storage area networks, and virtual system management.

BRCC Computing and Information Systems (Associate of Applied Science), Cloud Computing concentration

The Associate of Applied Science in Computing and Information Technology with a Cloud Computing concentration provides students with a strong cloud computing foundation for employment. Students gain technical skills that allow them to acquire specialized hands-on training to position them for entry-level cloud computing opportunities.

To receive this degree, certificate, or technical competency area, the student must:

- Have a cumulative GPA of 2.00 of higher in all credit hours to be used towards the degree.
- Earn a "C" or better in all courses in the program of study outline below.
- Complete the coursework listed below.

Program Outcomes. Upon successful completion of the program, the graduate will be able to:

1. Identify cloud infrastructure mechanisms such as virtual servers, storage, and usage.
2. Apply current technical tools and methodologies to create cloud solutions.
3. Evaluate cloud computing trends, practices, and products.
4. Discuss emerging and fundamental database concepts and technologies.
5. Communicate effectively with a wide range of audiences.

Program of Study

First Semester		**Credit Hours**
ENGL 1013	English Composition I	**3**
MATH 1113 or MATH 1213	College Algebra	**3**
CSCI 1923	Introduction to Computers: Programming Logic and Design	**3**
CSCI 1953	Society and Ethics in Computing	**3**
HIST 1113	World Civilization to 1500	**3**
	Semester Total:	**15**

Second Semester		**Credit Hours**
CSCI 1823	Introduction to Database Design	**3**
CSCI 1933	Software Design and Programming I	**3**
CSCI 2113	Cloud Computing Foundations	**3**
CNET 2103	Introduction to Computer Networking	**3**
INTE 1103	Install and Troubleshoot Part I	**3**
	Semester Total:	**15**

Third Semester		**Credit Hours**
CSCI 1993	Advanced Database Storage and Management	**3**
CSCI 1943	Software Design and Programming II	**3**
CSCI 2153	Linux/Unix System Programming	**3**
INTE 1113	Install and Troubleshoot Part II	**3**
PSYC 2013	Introduction to Psychology	**3**
	Semester Total:	**15**

Fourth Semester		**Credit Hours**
CNET 2503	PC and Network Security	**3**

BIOL 1013 or	General Biology I or	3
BIOL 1033	Biology I for Science Majors	
INTE 2013	Windows Server I	3
CSCI 2653	Virtual Infrastructure: Installation and Configuration	3
CSCI 2783	Systems Analysis & Design	3
	Semester Total:	**15**
	Total Program Credit Hours:	**60**

For more information, contact the Division of Science, Technology, Engineering, and Mathematics at 225-216-8226.

KN spoted

Bossier Parish Community College
Unofficial Curriculum Sheet

ACT Scores	ENGL		MATH		READ	
Placement	ENGL		MATH		READ	

This unofficial curriculum sheet is established for guidance of students while pursuing an associate degree or certificate at BPCC. Courses marked below which are transferred from another institution are not applicable to degree requirements until approved by the Office of Academic Affairs. Students are encouraged to meet with an academic advisor concerning required courses and sequencing for this degree.

2019-2020 Associate of Applied Science in Systems Administration (Cloud Computing)

Last Name	First Name	MI	Student ID #	Date Initiated	Phone and/or Email

Dev Course	Grade	Semester	Advisor

Dev Course	Grade	Semester	Advisor

Freshman Year

First Semester	Grade	Semester Earned	Name of Institution/ Notes	Hours
CTEC 102: Problem Solving & Prog Tech	✓			3
CTEC 112: IT Hardware Support	✓			3
CTEC 114: IT Software Support	✓			3
MATH 101: App Alg for Col Students or MATH 102: College Algebra	✓			3
ENGL 101: Composition & Rhetoric I	✓			3
				15

Second Semester	Grade	Semester Earned	Name of Institution/ Notes	Hours
CTEC 155: Network Essentials	✓			3
CTEC 104: Introduction to Scripting	✓			3
CTEC 165: Introduction to Virtualization	✓			3
CTEC 170: Microsoft Windows Server	✓			3
Behavioral/Social Science Elective *	✓			3
				15

Sophomore Year

First Semester	Grade	Semester Earned	Name of Institution/ Notes	Hours
CTEC 270: Relational Database Coding	✓			3
CTEC 262: Intro to Cloud Computing	✓			3
CTEC 172: Linux Server	✓			3
CTEC 287: Network Security	✓			3
Natural Science Elective **	✓			3
				15

Second Semester	Grade	Semester Earned	Name of Institution/ Notes	Hours
Approved CTEC Elective *** 272 or 150	✓			3
CTEC 263: Cloud+ or 266	✓			3
SPCH 110: Public Speaking	✓			3
Humanities Elective *	✓			3
CTEC 299: CTEC Internship	✓			3
				15

Total Hours: 60

Advisor

Dean or Designee

For transfer to a four-year institution, students are strongly advised to take MATH 102 instead of MATH 101. Students must seek the assistance of their advisor to determine the appropriate mathematics course.

***Approved CTEC Elective: Any CTEC 200 level OR program director approval.*

Revised 9/10/2019

Bossier Parish Community College
Unofficial Curriculum Sheet

ACT Scores	ENGL		MATH		READ	
Placement	ENGL		MATH		READ	

This unofficial curriculum sheet is established for guidance of students while pursuing an associate degree or certificate at BPCC. Courses marked below which are transferred from another institution are not applicable to degree requirements until approved by the Office of Academic Affairs. Students are encouraged to meet with an academic advisor concerning required courses and sequencing for this degree.

2019-2020 Associate of Applied Science in Systems Administration (Enterprise Information Technology & Development)

Last Name	First Name	MI	Student ID #	Date Initiated	Phone and/or Email

Dev Course	Grade	Semester	Advisor

Dev Course	Grade	Semester	Advisor

Freshman Year

First Semester	Grade	Semester Earned	Name of Institution/ Notes	Hours
CTEC 102: Problem Solving & Prog Tech				3
CTEC 112: IT Hardware Support				3
CTEC 114: IT Software Support				3
MATH 101: App Alg for Col Students **or** MATH 102: College Algebra				3
ENGL 101: Composition & Rhetoric I				3
				15

Second Semester	Grade	Semester Earned	Name of Institution/ Notes	Hours
CTEC 155: Network Essentials				3
CTEC 104: Introduction to Scripting				3
CTEC 165: Introduction to Virtualization				3
CTEC 170: Microsoft Windows Server				3
Behavioral/Social Science Elective *				3
				15

Sophomore Year

First Semester	Grade	Semester Earned	Name of Institution/ Notes	Hours
Approved CTEC Elective ***				3
CTEC 262: Intro to Cloud Computing				3
CTEC 172: Linux Server				3
CTEC 287: Network Security				3
Natural Science Elective **				3
				15

Second Semester	Grade	Semester Earned	Name of Institution/ Notes	Hours
Approved CTEC Elective ***				3
CTEC 272: Advanced Topics in Linux				3
SPCH 110: Public Speaking				3
Humanities Elective *				3
CTEC 299: CTEC Internship				3
				15

Total Hours: 60

Advisor

Dean or Designee

For transfer to a four-year institution, students are strongly advised to take MATH 102 instead of MATH 101. Students must seek the assistance of their advisor to determine the appropriate mathematics course.

***Approved CTEC Elective: Any CTEC 100 level or above OR program director approval.*

Revised 9/10/2019

LCTCC

Cloud Computing AAS - 09/09/2019

TYPE OF PROPOSED CHANGE : Archived Curriculum

PROGRAM NAME : Cloud Computing AAS

AWARD LEVEL(S)

For Board of Regents and LCTCS Review:

Associate of Applied Science (A.A.S.)

Name:

For LCTCS Review:

Technical Diploma (T.D.)

Certificate of Technical Studies (C.T.S.)

Career and Technical Certificate (C.T.C)

TCA - For Archive Purpose Only

NAME OF PROGRAM(S) and AWARD LEVEL(S)

Stars : 5 Stars

Name: AAS - Cloud Computing **Program Delivery Mode:** Standard

CIP: 11.0902	**Credit Hours:** 60.00	**Contact Hours:** 60.00	Associate of Applied Science (A.A.S.)

Stars : 5 Stars

Name: TD – COMPUTER TECHNOLOGY SPECIALIST **Program Delivery Mode:** Standard

CIP: 11.0902	**Credit Hours:** 0.00	**Contact Hours:** 47.00	Technical Diploma (T.D.)

Stars : 5 Stars

Name: CTS - Information Systems **Program Delivery Mode:** Standard

CIP: 11.0902	**Credit Hours:** 33.00	**Contact Hours:** 0.00	Certificate of Technical Studies (C.T.S.)

IBC:	**Issuing Body:**	**Course Title:**	**Course Prefix:**	**Course Number:**	**Credits Awarded:**	**IBC Awarded upon Completion?**
Amazone Web Services (AWS) Cloud Computing	Amazon				0.00	: No-Test is Required

Stars : 5 Stars

Name: CTS - Computer Maintenance Technician			**Program Delivery Mode:** Standard
CIP: 11.0902	**Credit Hours:** 16.00	**Contact Hours:** 0.00	Career and Technical Certificate (C.T.C)

PROPOSED CHANGE
a) For New Programs, state the purpose and objective; b) For Curriculum Modifications, state previous credit and clock hours; c) For Program Termination, state program and all award levels; d) For Curriculum Adoption, state the college from which curriculum is being adopted and the date it was approved by LCTCS.

Central Louisiana Technical Community College proposes a sixty (60) credit hour Associate of Applied Science degree program in Cloud Computing.
The A.A.S. in Cloud Computing program is designed to provide an opportunity to establish a strong foundation in cloud computing for employment. An ever-increasing number of both corporate and government organizations are adopting the cloud infrastructure. Graduates will acquire a skill set that allows them to architect scalable application solutions that leverage cloud computing services. The proposed program will be part of an LCTC System-wide initiative to create a state-wide common Associate degree in Cloud Computing. CLTCC is positioned well to take the initiative in presenting this concept proposal for three reasons: 1) many of the skills needed are part of existing CLTCC courses, and, 2) the College currently has an instructor preparing to become a Certified Amazon Web Services Cloud Architecture Instructor with the intention of teaching new courses in cloud computing in spring 2020.
Student Learning Outcomes:
Students who complete the Cloud Computing Associate degree will be able to:
- Describe the major characteristics of a cloud computing environment including the roles and boundaries between a cloud provider and cloud consumer
- Define cloud security threats and vulnerabilities and describe cloud security mechanisms
- Define and distinguish between cloud infrastructure mechanisms such as virtual servers, storage, usage and monitoring
- Install, configure, troubleshoot and utilize Linux systems
- Effectively perform in and lead agile teams on an iterative project
- Design and administer a database
- Install and configure of VirtualBox virtual systems

IMPLEMENTATION DATE (Semester and Year)	Spring 2020

HISTORY OF PRIOR ACTIONS
Provide an overview of changes to this program.

N/A

JUSTIFICATION FOR THE PROPOSED CHANGE
Include support such as four-year university agreements, industry demand, advisory board information, etc.

The National Institute of Standards and Technology (NIST) defines cloud computing as "...a model for enabling ubiquitous, convenient, on-demand network access to a shared pool of configurable computing resources (e.g., networks, servers, storage, applications, and services) that can be rapidly provisioned and released with minimal management effort or service provider interaction." (National Institute of Standards and Technology, 2017). Essentially, cloud computing leverages the Internet as a means to deliver networking services that would otherwise be facilitated by local servers and/or personal computers. Cloud computing is an emerging area of Information Technology that has experienced rapid growth in recent years. This development is due, in part, to the growing need to cost-effectively process, store, and secure large amounts of data.

The rationale for this proposal is twofold. Foremost, cloud computing is an emerging area of interest within the Information Technology industry. Secondly, because of its novelty, little has been done in higher education in terms of developing comprehensive curricula, educational resources, and technician training programs that lead to industry certification. Computerworld's Tech Forecast 2017 survey identified cloud computing as one of the five most in demand skills, which translates to high earnings for cloud technicians. In 2015, NASDAQ estimated cloud computing to be a $77 billion industry, which is expected to grow to $205 billion by 2020 (Pendse, 2017). Forbes magazine ranked Amazon's AWS Certified Solutions Architect Associate certificate and Microsoft's Certified Solutions Associate certificate in the 15 Top-paying Information Technology certifications in 2017, with a median salary of $119,233 and $99,558 respectively.

Not only are there substantial high-paying jobs available in this field, the proposed program will be able to provide trained professionals in this area is essential in Louisiana's efforts to attract new business and industry to the state. A key component of the new economy is building up the existing talent pipeline by designing educational programs around the skills needed, such as cloud computing, for Twenty-first century jobs.

The College, and LCTC System have partnered with DXC Technology, Inc. and Amazon Web Services to provide training to support the growing Information Technology sector in the Greater New Orleans area.

SITE(S) OF NEW PROGRAM OR CURRICULUM MODIFICATION: Sites (list below)

Alexandria

Ferriday

QUALIFIED FACULTY (Check all that apply)

Use Existing Faculty: No	**Hire Adjunct Faculty:** No	**Hire Full-Time Faculty:** No
# - Full Time: 2	**# - 0**	**# - 0**
# - Part Time: 0		

ADMINISTRATION and IMPLEMENTATION COSTS

Department :

How will this change affect the administrative structure and/or allocation of departmental funds in terms of:

Faculty :	**Facilities :**	**Library Resources :**
Support :	**Related Fields :**	**Other :**

MINIMUM CREDENTIALS REQUIRED FOR FACULTY

Education: Bachelor's in Computer Science, Information, or related computer discipline	**Experience:**	**Certification:** AWS Certifications in Cloud Computing

FISCAL IMPACT: ADMINISTRATION and IMPLEMENTATION COSTS

Department : Division of Technical Studies

Describe how this change will affect the administrative structure and/or allocation of departmental funds in terms of faculty, facilities, support, and any other resources.

Mr. William Tulak is the Vice Chancellor of Academic Affairs. Approval of the proposed program will have no impact on the current administrative structure of the Division.
The Division of Business and Technology at Central Louisiana Technical Community College currently houses more than 15 degree and certificate programs. The Division trains students for careers in some of the most common and sought-after business occupations including: Air Conditioning (A/C) & Refrigeration, Automotive Technology, Business Office Administration, Carpentry, Collision Repair Technology, Computer Technology Specialist, Cosmetology, Drafting & Design Technology, Electrician Technology, Forest Technology, Industrial Manufacturing Technology, Outdoor Power Equipment Technology, Patient Care Technician, Pharmacy Technician, Practical Nursing, and Welding.
Students completing such programs typically find success in transfer to related baccalaureate degree programs and/or immediate entry into the workforce. Instructional programs eligible for professional accreditation typically hold accredited status and perform at par or above professional agency benchmarks. Instructional programs at CLTCC are accredited by the Council on Occupational Education (COE),. The proposed program will provide additional opportunities for students interested in computer information technology/computer science; and, will replace the existing program in Computer Technology Technical Diploma program.

ANTICIPATED ENROLLMENT:

Students	Year One	Year Two	Year Three	Year Four	Year Five
DAY	51	56	61	67	73
EVENING					
DISTANCE EDUCATION					

Describe Process for Attaining & Estimating Enrollment:	

PROGRAM ACCREDITATION:

Is Program Accreditation, Licensure or Certification Required?	Mandatory **Accreditation status:** Approved
Type/Name of Program Accreditation, Licensure or Certification Required:	CLTCC will submit to Council on Occupational Education (COE) for approval.

DESCRIBE IMPLEMENTATION COSTS (Include Faculty, Facilities, Library Resources, etc.)

PROGRAM CURRICULUM
Use the template below or insert separate attachment. All modifications should include the OLD and NEW curriculum with changes appropriately noted so that it is visually clear what has been added, deleted and/or changed. Note if any special requirements, such as internships, are part of the curriculum. List all embedded IBCs. If you are adopting curriculum, you do not need to complete this section.

Subject Code	Course Number	Course Title	Lecture Hours	Lab Hours	Contact Hours	Credit Hours	Clinical Hours
Program, Degree or Concentration: Cloud Computing, A.A.S					**Credit Hours:** 60.00		
Semester: Semester 1					**Credit Hours:** 16.00		
ORNT	1000	Freshman Seminar	0.00	0.00	15.00	1.00	0.00
COMP	1201	Introduction to Programming	0.00	0.00	45.00	3.00	0.00
COMP	1110	Computer Maintenance I	0.00	0.00	135.00	4.00	0.00
COMP	1115	Computer Maintenance II	0.00	0.00	135.00	4.00	0.00
ETRN	2727	Basic Networking	0.00	0.00	120.00	4.00	0.00
Program, Degree or Concentration: CTC - Computer Maintenance Technician					**Credit Hours:** 16.00		
Semester: Semester 2					**Credit Hours:** 17.00		
INCT	1202	Operating Systems	0.00	0.00	120.00	4.00	0.00
INCT	2822	Server Technology	0.00	0.00	105.00	3.00	0.00
INCT	1122	Introduction to Routers	0.00	0.00	120.00	4.00	0.00
COMP	1301	Database management Systems	0.00	0.00	105.00	3.00	0.00
COMP	1801	Cloud Foundations	0.00	0.00	105.00	3.00	0.00
Program, Degree or Concentration: CTS - Information Systems Technician					**Credit Hours:** 33.00		
Semester: Semester 3					**Credit Hours:** 14.00		
INCT	2842	Managing Network Security	0.00	0.00	105.00	3.00	0.00
INCT	2601	Linux Systems Administration	0.00	0.00	45.00	3.00	0.00
COMP	2999	Elective or CO-OP	0.00	0.00	135.00	3.00	0.00
JOBS	2450	Job Seeking Skills	0.00	0.00	30.00	2.00	0.00
ENGL	1010	English Composition I	0.00	0.00	45.00	3.00	0.00
Program, Degree or Concentration: TD - Computer Technology Specialist					**Credit Hours:** 47.00		
Semester: Semester 4					**Credit Hours:** 13.00		
MATH	XXXX	College Algebra or Contemporary Math	0.00	0.00	45.00	3.00	0.00

		Social Science Elective	0.00	0.00	45.00	3.00	0.00
		Natural Science Elective	0.00	0.00	45.00	3.00	0.00
		Humanities Elective	0.00	0.00	45.00	3.00	0.00
		General Elective	0.00	0.00	15.00	1.00	0.00
Program, Degree or Concentration: AAS Cloud Computing					**Credit Hours:** 60.00		

BENEFITS TO THE SYSTEM

Discuss how this change will benefit your students, your community, and the LCTCS.

The proposed Associate of Applied Science degree program in Cloud Computing is consistent with the role, scope, and mission of the College in that it prepares students to successfully enter the workforce in high-demand, high-skilled jobs, while meeting an articulated workforce need for the Greater Central Louisiana region. As an Associate of Applied Science, the program is not designed for transfer; however, courses comprising the General Education core are acceptable in transfer to senior colleges and universities. The proposed program will further the mission of the institution by addressing regional workforce needs and providing opportunities for students to train in high-demand, high-skilled, and innovative career preparation programs. The proposed program supports initiatives identified in the Louisiana Community and Technical College System's Our Louisiana 2020: Building the Workforce of Tomorrow, by focusing on Tier One Workforce needs. Specifically, it addresses goal #1: double the total number of graduates, goal #2 double the earnings of graduates, and goal #5 quadruple the number of partnerships with business and industry. The proposed program supports initiatives identified in the Board of Regents' Master Plan for Public Postsecondary Education; specifically, Goal #1: Increase the Educational Attainment of the State's Adult Population to the Southern Regional Education Board States' Average by 2025, and Goal #2: Foster Innovation Through Research in Science and Technology in Louisiana.

KEYWORDS

Cloud Computing, Computer Networking, Computer Maintenance

AAS Full Stack Cloud Developer - 09/06/2019

TYPE OF PROPOSED CHANGE : New Program

PROGRAM NAME : AAS Full Stack Cloud Developer

AWARD LEVEL(S)

For Board of Regents and LCTCS Review:	For LCTCS Review:
Associate of Applied Science (A.A.S.)	Technical Diploma (T.D.)
Name:	Certificate of Technical Studies (C.T.S.)
	Career and Technical Certificate (C.T.C)
	TCA - For Archive Purpose Only

NAME OF PROGRAM(S) and AWARD LEVEL(S)

Stars : 5 Stars

Name: Full Stack Cloud Developer **Program Delivery Mode:**

CIP: 11.0902 **Credit Hours:** 60.00 **Contact Hours:** 0.00 Associate of Applied Science (A.A.S.)

IBC:	Issuing Body:	Course Title:	Course Prefix:	Course Number:	Credits Awarded:	IBC Awarded upon Completion? :
AWS Certified Cloud Practitioner	Amazon Web Services	Cloud Computing	CINS	210	3.00	

PROPOSED CHANGE

a) For New Programs, state the purpose and objective; b) For Curriculum Modifications, state previous credit and clock hours; c) For Program Termination, state program and all award levels; d) For Curriculum Adoption, state the college from which curriculum is being adopted and the date it was approved by LCTCS.

Cloud computing involves the use of computing resources such as but not limited to applications, storage, database, and computer power in an on-demand, yet off premises fashion. The technologies utilized to accomplish this allow elements of an IT infrastructure to be housed in remote locations or data warehouses without direct active management of the entity utilizing it. Cloud computing allows for greater flexibility and nearly instant scalability. Analysis of industry trends reveals a shift to these on-demand methods of technological operation across a plethora of fields including aerospace, shipping and transportation, healthcare, manufacturing, and education. As a community college, we sit at the forefront of the movement to provide a skilled workforce to fill labor shortages in this space which are expected to increase exponentially in the coming years. The Associate of Applied Science – Full Stack Cloud Developer degree prepares students to take on careers in the cloud computing ecosystem by providing training in fundamental elements of IT such as hardware and software support, networking, and security with an emphasis on virtualization, server technologies, databases, and computer programming. All of these core concepts are taught using cloud technology as a backdrop, with each course exploring how the cloud has augmented the specialties. Practical application of cloud concepts is also implemented so that students finish the program of study with sufficient knowledge and skill in this blossoming field. Finally, this curriculum has been formed in conjunction with the LCTCS system and cohort colleges within. We are pleased to push forward as a system on this endeavor.

IMPLEMENTATION DATE (Semester and Year)	Spring 2020

HISTORY OF PRIOR ACTIONS
Provide an overview of changes to this program.

n/a

JUSTIFICATION FOR THE PROPOSED CHANGE
Include support such as four-year university agreements, industry demand, advisory board information, etc.

Today, cloud computing is a top skill that employers of IT teams require. Forbes magazine stated in 2018 there were over 50,000 unfilled cloud computing positions available across the United States and 100,000 worldwide. The demand is expected to increase exponentially, requiring not only community colleges to set the pace for this training, but also imploring high schools and universities to participate in the creation and sustainability of this skilled workforce pipeline.

SITE(S) OF NEW PROGRAM OR CURRICULUM MODIFICATION: Main Campus

QUALIFIED FACULTY (Check all that apply)

Use Existing Faculty: No	**Hire Adjunct Faculty:** No	**Hire Full-Time Faculty:** No
# - Full Time: 3	**# -** 0	**# -** 1
# - Part Time: 0		

ADMINISTRATION and IMPLEMENTATION COSTS

Department :

How will this change affect the administrative structure and/or allocation of departmental funds in terms of:

Faculty :	**Facilities :**	**Library Resources :**
Support :	**Related Fields :**	**Other :**

MINIMUM CREDENTIALS REQUIRED FOR FACULTY

Education: Education: Masters in Computer Science, Information Systems, or related field	**Experience:** Experience: Preferred 3 years industry experience	**Certification:** Certification: Preferred AWS Cloud Practitioner

FISCAL IMPACT: ADMINISTRATION and IMPLEMENTATION COSTS

Department : School of Business and Technology

Describe how this change will affect the administrative structure and/or allocation of departmental funds in terms of faculty, facilities, support, and any other resources.

As all of the division's computing associate degree programs grow coupled with this latest addition of the Full Stack Cloud Developer degree, there will be a need to hire an additional full-time instructor.
A division administrative assistant would be helpful to manage the volume of inquiries via phone calls and emails as well as manage student foot traffic and visitors.

ANTICIPATED ENROLLMENT:

Students	Year One	Year Two	Year Three	Year Four	Year Five
DAY	10	15	18	23	39
EVENING	3	5	9	12	17
DISTANCE EDUCATION	11	13	21	28	32

Describe Process for Attaining & Estimating Enrollment:	We anticipate students participating in our currently running programs of Computer Science, Information Technology, and Business and Technology to be attracted to this new cloud computing degree. Further, working with area high schools to raise awareness of opportunities in this space will be imperative. Illustrating pathways throughout the higher education ecosystem toward university completion of advanced degrees is also of value and importance and can serve as an attraction to prospective students as well. Where we expect the largest population to be traditional students, working professionals looking to further their education and advance their careers will help to fill up evening and online classes. LDCC's student population has been growing at a 12%-20% clip over the past few years. We are expected to keep a similar pace as more eligible students in the area recognize the opportunity and value of our educational offerings and begin to look to LDCC as the primary starting point for higher education in northeast Louisiana.

PROGRAM ACCREDITATION:

Is Program Accreditation, Licensure or Certification Required?	No **Accreditation status:** N/A
Type/Name of Program Accreditation, Licensure or Certification Required:	n/a

DESCRIBE IMPLEMENTATION COSTS (Include Faculty, Facilities, Library Resources, etc.)

PROGRAM CURRICULUM
Use the template below or insert separate attachment. All modifications should include the OLD and NEW curriculum with changes appropriately noted so that it is visually clear what has been added, deleted and/or changed. Note if any special requirements, such as internships, are part of the curriculum. List all embedded IBCs. If you are adopting curriculum, you do not need to complete this section.

Subject Code	Course Number	Course Title	Lecture Hours	Lab Hours	Contact Hours	Credit Hours	Clinical Hours
Program, Degree or Concentration:					**Credit Hours:** 0.00		
CSCI	192	Programming and Logic Design	3.00	0.00	0.00	3.00	0.00
CNET	101	Computer User Support I*	3.00	0.00	0.00	3.00	0.00
CSCI	240	Project Management/Agile*	3.00	0.00	0.00	3.00	0.00
CINS	205	Database Applications	3.00	0.00	0.00	3.00	0.00
ENGL	101	English Composition I	3.00	0.00	0.00	3.00	0.00
CSCI	200	Software Design & Programming I or (IT/CSCI Elective if transferring from another LCTCS Institution)	3.00	0.00	0.00	3.00	0.00
CNET	102	Computer User Support II*	3.00	0.00	0.00	3.00	0.00
CNET	110	Networking Fundamentals*	3.00	0.00	0.00	3.00	0.00
CINS	210	Cloud Computing	3.00	0.00	0.00	3.00	0.00
MATH	110	College Algebra	3.00	0.00	0.00	3.00	0.00
CSCI	203	Software Design & Programming II or (IT/CSCI elective if transferring from another LCTCS institution)	3.00	0.00	0.00	3.00	0.00
CINS	120	Operating Systems Fundamentals or (IT/CSCI elective if transferring from another LCTCS institution)	3.00	0.00	0.00	3.00	0.00
CNET	201	Windows Server I	3.00	0.00	0.00	3.00	0.00
CNET	172	Linux Server	3.00	0.00	0.00	3.00	0.00
--	--	History Elective	3.00	0.00	0.00	3.00	0.00
CINS	211	Web Development or (IT/CSCI elective if transferring from another LCTCS institution)	3.00	0.00	0.00	3.00	0.00
CINS	220	System Security*	3.00	0.00	0.00	3.00	0.00
CINS	218	Information Storage Management or (IT/CSCI elective if transferring from another LCTCS institution)	3.00	0.00	0.00	3.00	0.00
--	--	Social Science Elective	3.00	0.00	0.00	3.00	0.00

--	--	Natural Science Elective	3.00	0.00	0.00	3.00	0.00

BENEFITS TO THE SYSTEM

Discuss how this change will benefit your students, your community, and the LCTCS.

The creation of the AAS Full Stack Cloud Developer degree will train students for careers in the flourishing field of cloud computing and the specializations within. The demand for skilled technologists familiar with cloud concepts will be required at all levels of the digital workforce soon, and those with practical knowledge that can immediately work in this space are already in high demand in some areas of the country. We want to prepare our community for the eventuality of increased workforce demand for these specialists through this proposed degree. We support the mission of LCTCS in this way and champion the system-wide initiative for all community colleges in the state of Louisiana to enact a cloud computing curriculum.

KEYWORDS

Full Stack Cloud Developer

Louisiana Cloud Degree

Cloud Computing Core Curriculum (9 courses)
Intro Programming
IT Foundations I
IT Foundations II (A+ Core 2)
Networking (Network+)
Windows Server/Scripting (PowerShell)
Linux Server/Scripting (Bash)
Database
Security (Security+)
Cloud Foundations (Cloud Essentials/AWS Cloud Foundations)

Cloud Computing Electives (5 courses)
IT/Computer Science Elective
IT/Computer Science Elective
IT/Computer Science Elective
IT/Computer Science Elective
IT/Computer Science Elective

General Elective (1 course)
General Elective

General Education Requirement (5 courses)
English Composition
College Algebra
Social/Behavioral Science
Natural Science
Humanities

LDCC

Cloud Computing Core Curriculum (9 courses)
CSCI 192 - Programming and Logic Design
CNET 101 - Computer User Support I
CNET 102 - Computer User Supprort II
CNET 110 - Network Fundamentals I
CNET 201 - Windows Server I (scripting and virtualization within course)
CNET 172 - Linux Server
CINS 205 - Database Applications
CINS 220 - System Security
CINS 210 - Cloud Computing

Cloud Computing Electives (5 courses)
CSCI 200 - Software Design & Programming I
CSCI 203 - Software Design & Programming II
CINS 218 - Information Storage Management
CINS 211 - Web Development
CINS 120 - Operating Systems Fundamentals (scripting and virtualization within course)

General Elective (1 course)
CSCI 240 - Project Management/Agile

General Education Requirement (5 courses)
ENGL 101 - English Composition I
MATH 110 - College Algebra
PSYC/SOCL/POLI/GEOG
BIOL/CHEM/PHSC/GEOL
HIST 100+/ENGL 200+

Louisiana Cloud Degree

Cloud Computing Core Curriculum (9 courses)
Intro Programming
IT Foundations I
IT Foundations II (A+ Core 2)
Networking (Network+)
Windows Server/Scripting (PowerShell)
Linux Server/Scripting (Bash)
Database
Security (Security+)
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Cloud Computing Electives (5 courses)
IT/Computer Science Elective
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IT/Computer Science Elective

General Elective (1 course)
General Elective

General Education Requirement (5 courses)
English Composition
College Algebra
Social/Behavioral Science
Natural Science
Humanities

LDCC

Cloud Computing Core Curriculum (9 courses)
CSCI 192 - Programming and Logic Design
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CINS 220 - System Security
CINS 210 - Cloud Computing

Cloud Computing Electives (5 courses)
CSCI 200 - Software Design & Programming I
CSCI 203 - Software Design & Programming II
CINS 218 - Information Storage Management
CINS 211 - Web Development
CINS 120 - Operating Systems Fundamentals (scripting and virtualization within course)

General Elective (1 course)
CSCI 240 - Project Management/Agile

General Education Requirement (5 courses)
ENGL 101 - English Composition I
MATH 110 - College Algebra
PSYC/SOCL/POLI/GEOG
BIOL/CHEM/PHSC/GEOL
HIST 100+/ENGL 200+

Information Technology - 09/20/2019

SLCC

TYPE OF PROPOSED CHANGE : Curriculum Modification

PROGRAM NAME : Information Technology

AWARD LEVEL(S)

For Board of Regents and LCTCS Review:	For LCTCS Review:
Name:	Technical Diploma (T.D.) Certificate of Technical Studies (C.T.S.) Career and Technical Certificate (C.T.C) TCA - For Archive Purpose Only

NAME OF PROGRAM(S) and AWARD LEVEL(S)

Stars : 5 Stars

Name: Cloud Computing Specialist — **Program Delivery Mode:**

CIP: 110901	**Credit Hours:** 27.00	**Contact Hours:** 675.00	Certificate of Technical Studies (C.T.S.)

PROPOSED CHANGE
a) For New Programs, state the purpose and objective; b) For Curriculum Modifications, state previous credit and clock hours; c) For Program Termination, state program and all award levels; d) For Curriculum Adoption, state the college from which curriculum is being adopted and the date it was approved by LCTCS.

Addition of a CTS in Cloud Computing to the Information Technology Program.

IMPLEMENTATION DATE (Semester and Year)	Spring 2020

HISTORY OF PRIOR ACTIONS
Provide an overview of changes to this program.

JUSTIFICATION FOR THE PROPOSED CHANGE
Include support such as four-year university agreements, industry demand, advisory board information, etc.

Cloud Computing has emerged as one of the most important trends in the information technology domain. Amazon Web Services has partnered with LCTCS and GNO Inc. to introduce a cloud-related learning program to college students and educators throughout the state that will prepare students to meet the demand for cloud computing specialists in the workforce.

SITE(S) OF NEW PROGRAM OR CURRICULUM MODIFICATION:

QUALIFIED FACULTY (Check all that apply)

Use Existing Faculty: No **# - Full Time:** 0 **# - Part Time:** 0	**Hire Adjunct Faculty:** No # - 0	**Hire Full-Time Faculty:** No # - 0

ADMINISTRATION and IMPLEMENTATION COSTS

Department :

How will this change affect the administrative structure and/or allocation of departmental funds in terms of:

Faculty :	**Facilities :**	**Library Resources :**
Support :	**Related Fields :**	**Other :**

MINIMUM CREDENTIALS REQUIRED FOR FACULTY

Education: Associate Degree	**Experience:**	**Certification:** Cisco

FISCAL IMPACT: ADMINISTRATION and IMPLEMENTATION COSTS

Department :

Describe how this change will affect the administrative structure and/or allocation of departmental funds in terms of faculty, facilities, support, and any other resources.

No additional cost at this time.

ANTICIPATED ENROLLMENT:

Students	Year One	Year Two	Year Three	Year Four	Year Five
DAY	75				
EVENING					

DISTANCE EDUCATION					
Describe Process for Attaining & Estimating Enrollment:	Cohort of 25 students in Fall and Spring at Lafayette and a cohort of 25 in Fall at Young Memorial				

PROGRAM ACCREDITATION:	
Is Program Accreditation, Licensure or Certification Required?	No **Accreditation status:**
Type/Name of Program Accreditation, Licensure or Certification Required:	

DESCRIBE IMPLEMENTATION COSTS (Include Faculty, Facilities, Library Resources, etc.)

PROGRAM CURRICULUM
Use the template below or insert separate attachment. All modifications should include the OLD and NEW curriculum with changes appropriately noted so that it is visually clear what has been added, deleted and/or changed. Note if any special requirements, such as internships, are part of the curriculum. List all embedded IBCs. If you are adopting curriculum, you do not need to complete this section.

Subject Code	Course Number	Course Title	Lecture Hours	Lab Hours	Contact Hours	Credit Hours	Clinical Hours
Program, Degree or Concentration:					**Credit Hours:** 0.00		

BENEFITS TO THE SYSTEM

Discuss how this change will benefit your students, your community, and the LCTCS.

This is an additional credential that offers students industry training. This makes our students more marketable and increases job placement opportunities.

KEYWORDS

Could; Computing; Information Technology

SLCC™
SOUTH LOUISIANA COMMUNITY COLLEGE

INFORMATION TECHNOLOGY
Associate of Applied Science
2019-2020

FALL START – NEW PROGRAM				
	FALL SEMESTER			
SFSE 1003	Seminar in First-Year Student Experience	3 Credits	Grade Earned:	
INTE 1100	Installation & Troubleshooting I	3 Credits	Grade Earned:	
INTE 1110	Installation & Troubleshooting II	3 Credits	Grade Earned:	
INTE 1200	Operating Systems	3 Credits	Grade Earned:	
INTE 1210	Introduction to Programming	3 Credits	Grade Earned:	
INTE 2110	Networking Technologies	3 Credits	Grade Earned:	
	CTS: System Support Technician **TOTAL SEMESTER CREDITS**	**18**		
	SPRING SEMESTER			
MATH 1105	College Algebra	3 Credits	Grade Earned:	
INTE 2010	Introduction to Client/Server Network	3 Credits	Grade Earned:	
INTE 2020	Server Network Infrastructure	3 Credits	Grade Earned:	
INTE 2111	Introduction to Routing & Switching	3 Credits	Grade Earned:	
INTE XXXX	List Course:	3 Credits	Grade Earned:	
	see note [4] **TOTAL SEMESTER CREDITS**	**15**		
	SUMMER SEMESTER			
ENGL 1010	Rhetoric & Composition	3 Credits	Grade Earned:	
INTE XXXX	List Course:	3 Credits	Grade Earned:	
INTE XXXX	List Course:	3 Credits	Grade Earned:	
Social/Behavioral Science see note [1]	List Course:	3 Credits	Grade Earned:	
	TOTAL SEMESTER CREDITS	**12**		
	FALL SEMESTER			
INTE 2033	Configuring Advanced Server Services	3 Credits	Grade Earned:	
INTE XXXX	List Course:	3 Credits	Grade Earned:	
INTE XXXX	List Course:	3 Credits	Grade Earned:	
Humanities see note [2]	List Course:	3 Credits	Grade Earned:	
Natural/Physical Science see note [3]	List Course:	3 Credits	Grade Earned:	
	see note 5 and [6] **TOTAL SEMESTER CREDITS**	**15**		
	Associate of Applied Science - Information Technology **TOTAL DEGREE CREDITS**	**60**		

A grade of "C" or higher is required in all courses.

DEGREE NOTES:

[1] Choose from General Education courses: Anthropology (ANTH), Criminal Justice (CJUS), Economics (ECON), Geography (GEOG), Political Science (POLI), Psychology (PSYC), or Sociology (SOCI).

[2] Choose from General Education courses: History (HIST), English (ENGL 2XXX) except ENGL 2045 and 2070, or Communications (CMCN) except CMCN 1170, 1270, and 2145.

[3] Choose from General Education courses: Biology (BIOL), Chemistry (CHEM), Environmental Science (ENSC), Geology (GEOL), Physical Science (PHSC), or Physics (PHYS).

[4] CTS: Network Administrator is awarded after a student has earned a "C" or higher in the following courses: INTE 1100, 1110, 1200, 2010, 2110, 2111, and an INTE Elective.

[5] CTS: System Analyst is awarded after a student has earned a "C" or higher in the following courses: INTE 1100, 1110, 1200, 2010, 2020, and 2033.

[6] CTS: Cyber Security Specialist is awarded after a student has earned a "C" or higher in the following courses: INTE 1100, 1110, 1200, 1800, 2010, 2110, 2111, 2114, and 2840.

NOTE: Students earn a TD after completion of INTE 1100, INTE 1110, INTE 1200, INTE 1210, INTE 2110, INTE 2010, INTE 2020, INTE 2111, INTE 2033, INTE XXXX, INTE XXXX, INTE, XXXX, INTE XXXX, INTE XXXX and SFSE 1003.

PROPOSED CHANGE TO PROGRAM: CTS: Cloud Computing Specialist is awarded after a student has earned a "C" or higher in the following courses: INTE 1100, INTE 1110, INTE 1210, INTE 1800, INTE 2010, INTE 2073, INTE 2110, INTE 2840, INTE 2853,

FALL START – OLD PROGRAM				
	FALL SEMESTER			
SFSE 1003	Seminar in First-Year Student Experience	3 Credits	Grade Earned:	
INTE 1100	Installation & Troubleshooting I	3 Credits	Grade Earned:	
INTE 1110	Installation & Troubleshooting II	3 Credits	Grade Earned:	
INTE 1200	Operating Systems	3 Credits	Grade Earned:	
INTE 1210	Introduction to Programming	3 Credits	Grade Earned:	
INTE 2110	Networking Technologies	3 Credits	Grade Earned:	
	CTS: System Support Technician **TOTAL SEMESTER CREDITS**	**18**		
	SPRING SEMESTER			
MATH 1105	College Algebra	3 Credits	Grade Earned:	
INTE 2010	Introduction to Client/Server Network	3 Credits	Grade Earned:	
INTE 2020	Server Network Infrastructure	3 Credits	Grade Earned:	
INTE 2111	Introduction to Routing & Switching	3 Credits	Grade Earned:	
INTE XXXX	List Course:	3 Credits	Grade Earned:	
	see note [4] **TOTAL SEMESTER CREDITS**	**15**		
	SUMMER SEMESTER			
ENGL 1010	Rhetoric & Composition	3 Credits	Grade Earned:	
INTE XXXX	List Course:	3 Credits	Grade Earned:	
INTE XXXX	List Course:	3 Credits	Grade Earned:	
Social/Behavioral Science see note 1	List Course:	3 Credits	Grade Earned:	
	TOTAL SEMESTER CREDITS	**12**		
	FALL SEMESTER			
INTE 2033	Configuring Advanced Server Services	3 Credits	Grade Earned:	
INTE XXXX	List Course:	3 Credits	Grade Earned:	
INTE XXXX	List Course:	3 Credits	Grade Earned:	
Humanities see note 2	List Course:	3 Credits	Grade Earned:	
Natural/Physical Science see note 3	List Course:	3 Credits	Grade Earned:	
	see note 5 and 6 **TOTAL SEMESTER CREDITS**	**15**		
	Associate of Applied Science - Information Technology **TOTAL DEGREE CREDITS**	**60**		

A grade of "C" or higher is required in all courses.

DEGREE NOTES:

[1] Choose from General Education courses: Anthropology (ANTH), Criminal Justice (CJUS), Economics (ECON), Geography (GEOG), Political Science (POLI), Psychology (PSYC), or Sociology (SOCI).

[2] Choose from General Education courses: History (HIST), English (ENGL 2XXX) except ENGL 2045 and 2070, or Communications (CMCN) except CMCN 1170, 1270, and 2145.

[3] Choose from General Education courses: Biology (BIOL), Chemistry (CHEM), Environmental Science (ENSC), Geology (GEOL), Physical Science (PHSC), or Physics (PHYS).

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[5] CTS: System Analyst is awarded after a student has earned a "C" or higher in the following courses: INTE 1100, 1110, 1200, 2010, 2020, and 2033.

[6] CTS: Cyber Security Specialist is awarded after a student has earned a "C" or higher in the following courses: INTE 1100, 1110, 1200, 1800, 2010, 2110, 2111, 2114, and 2840.

NOTE: Students earn a TD after completion of INTE 1100, INTE 1110, INTE 1200, INTE 1210, INTE 2110, INTE 2010, INTE 2020, INTE 2111, INTE 2033, INTE XXXX, INTE XXXX, INTE, XXXX, INTE XXXX, INTE XXXX and SFSE 1003.

tammyterry

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SOWELA TECHNICAL COMMUNITY COLLEGE

School of Business and Applied Technology
Cloud Foundations
Master Syllabus

Course Information

Course Name: Cloud Computing
Course Number: ITEC 2050 **CRN:**
Course Credits: 3 **Lecture:** 3 **Lab:** 0

Catalog Description

This course provides a general understanding of the cloud and concepts associated with it. It covers benefits that drive cloud adoptions, technologies and concepts that come together to create a cloud environment, cloud deployment models, design principles, reliability and availability, security models, and the efficiency and cost of cloud services.

Prerequisites: None

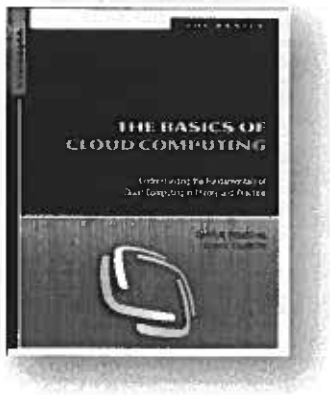
Co-requisites: None

Instructor Information

School: Business and Applied Technology
Office:
Instructor:
Email:
Phone:
Office Hours: Posted in Canvas and on the Instructor's office door

Textbook Information

- The Basics of Cloud Computing: Understanding the Fundamentals of Cloud Computing in Theory and Practice
- Authors: Derrick Rountree and Ileana Castrillo
- eBook ISBN: 9780124055216 Paperback ISBN: 9780124059320



Supplies

Internet Access and AWS Academy Cloud Foundations Online content and Labs

Student Learning Outcomes

At the completion of this course, the student will be able to

- Define cloud computing
- Describe core cloud computing services
- Describe a cloud computing security model
- Describe a cloud computing architecture framework
- Describe the costs associated with technical support for cloud computing

Assessment Measures (*Assessment will be measured using a variety of the following*)

- Individual and group projects
- Presentations
- Objective tests
- Problem solving and performance tests

Expanded Course Outline

- Introduction Cloud Computing
- Cloud Economics
- Global Infrastructure
- Cloud Drivers
- Authentication
- Hardware Virtualization
- Cloud Deployment Methods
- Public, Private, and Hybrid Clouds
- Compute Concepts
- Web Development Technologies
- Database Services
- Security Models
- Security Configuration
- Security Management
- Evaluating Cloud Security
- Security resources
- Framework
- Design Principles
- Reliability and Availability
- Plans and pricing associated with cloud computing

Grades

Security Pro Labs..... 60%

Exams..... 40%

Certification Exam..... Extra Credit

Exception to above percentages: *Students who pass the Certification Exam and earn 70% or better on their overall lab grade will automatically receive an A in the course*

Grading Scale

90 – 100	→	A
80 – 89	→	B
70 – 79	→	C
60 – 69	→	D
0 – 59	→	F

Assignments and Tests

Students are required to complete assignments and tests within the dates shown on the Course Calendar. Late assignments will be docked 5 points per day. If course work is continuously not submitted, turned in late, and/or incomplete and test results are below average, the instructor may recommend, to the student, to withdraw from the class. It is very important that students attend class, complete assignments and tests on time, and dedicate an appropriate amount of time to the requirements of this class.

Attendance

Class attendance is essential to the successful completion of this course because absences affect class participation and can prevent students from achieving course objectives. For this reason, attendance will be confirmed by the taking of attendance at the beginning of each class until the course ends. Also, regardless of the reason or nature of an absence, every student is responsible for completing all of the requirements of this course as indicated on the course calendar.

Course Transferability

This course is not designed for transfer to any four-year institution or baccalaureate program. However, at the discretion of the receiving institution, this course may transfer. Therefore, students are advised to contact the institution to which they intend to transfer to inquire about the potential transferability of this course and to determine whether the course may be used to meet graduation requirements within their chosen major.

Show/No Show and Withdrawal from a Course(s)

Any course in which the college has established that the student has not started will be dropped from the student's schedule for no-show at the end of the 2nd week of class (or on the state designated census date). Students will only be allowed to re-enroll after the census date with documentation of mitigating circumstances and approval from the Chancellor.

It is the responsibility of the student to officially withdraw from a course or courses they are not productive in on or prior to the final day to withdraw.

The withdrawal process requires that the student contact the Office of Registration and Records to submit a notice of official withdrawal. Students receiving federal student aid, scholarships, and/or institutional awards should also consult with the Office of Student Financial Aid prior to withdrawal. Failure to officially withdraw may affect the awarding and disbursement of Title IV aid and a balance maybe incurred. **Note: See SOWELA's Web Site for the last date to withdraw from this course.**

Academic Honesty

SOWELA Technical Community College encourages academic honesty in all classes and requires honesty from all students. Cheating or any other form of academic dishonesty will not be tolerated. Any student found guilty of dishonorable acts in academic work will receive a grade of 0% for the work presented. The instructor may also refer the student for further disciplinary action that could result in an "F" for the course, dismissal from the course, dismissal from the college, and/or possible legal action.

Special Notes

- Incomplete Policy – Students with unforeseen documented evidence of hardships may receive an incomplete in the course. It is the student's responsibility to request an Incomplete Request form, complete it, and submit it with documentation of the hardship, and the Instructor's signature. A significant portion of the course must be completed before this can be considered. All Incompletes must be removed by the end of the following semester.

- Disabilities Policy – SOWELA Technical Community College seeks to meet the needs of its students in many ways. If a student has a disability that qualifies under the Americans with Disabilities Act and Section 504 of the Rehabilitation Act and requires accommodations, he/she should contact the Office of Disability Services for information on appropriate policies and procedures. The Office of Disability Services is located in Computer Technology Building – Student Success Center. You may also contact the office at osd@sowela.edu or (337) 421-6969.

- Student Conduct – Any acts that would be considered disruptive in a classroom setting will not be tolerated. Derogatory comments and obscenities are unacceptable. All students will exercise politeness and common courtesy during class.

- Cellular telephones – Students must set their cell phone to vibrate mode or turn if off during class. If you must respond to a call, please leave the room and return when your call is completed.

SOWELA Technical Community College

Master Course Outline

Course Name: Virtualization and Instances
Course Number: ITEC 2060
Lecture contact hours: 3 **Lab contact hours:** 0
Semester Contact Hours: 45 **Semester Credit Hours:** 3

Catalog Description:

This course teaches students to implement and support virtualization of clients and servers in a networked computing environment. Students will explore installation (instances), configuration, and management of computer virtualization workstation and servers.

Prerequisites: None
Co-requisites: None

Student Learning Outcomes:
Upon successful completion of this course, the student will be able to:

- Create and network virtual machines.
- Set priorities for accessing resources.
- Move and clone virtual machines.
- Ensure high availability for applications within virtual machines.

Text:
"Cloud Computing: Master the Concepts, Architecture and Applications with Real-world examples and Case studies" by Kamal Kant Hiran; ISBN-13: 978-9388511407; $24.95

Assessment Measures:

- Assignments
- Comprehensive Objective Tests
- Comprehensive Production Tests

Course Transferability:
This course is not designed for transfer to any four-year institution or baccalaureate program. However, at the discretion of the receiving institution, this course may transfer. Therefore, students are advised to contact the institution to which they intend to transfer to inquire about the potential transferability of this course and to determine whether the course may be used to meet graduation requirements within their chosen major.

SOWELA Technical Community College

Master Course Outline

Course Name: Cloud Computing Internship
Course Number: ITEC 2993
Lecture contact hours: 0 **Work-Based Contact hours:** 135
Semester Contact Hours: 0 **Semester Credit Hours:** 3

Catalog Description:
This course offers students an actual workplace experience under the direct supervision of an instructor.
Prerequisites: Special Approval
Co-requisites: None

Required Text: None

Student Learning Outcomes:
Upon successful completion of this course, the student will be able to:
1. Understand how classroom learning applies directly to business and industry.
2. Understand daily operations of firms within their degree area.
3. Work under direct supervision.

Assessment Measures:
Time log, supervisor's rating, site visit, sample work, and student commentary
Course Transferability:
This course is not designed for transfer to any four-year institution or baccalaureate program. At the discretion of the receiving institution, this course may transfer to some two-year community or technical colleges. Therefore, students are advised to contact the institution to which they intend to transfer to inquire about the potential transferability of this course and to determine whether the course may be used to meet graduation requirements within their chosen major.
Expanded Course Outline:
Internship approval forms, grading rubrics, and other documents available through the Dean and the Support Coordinator or the BAT Portal.