Business Information Technology Specialist Diploma Program
EXAMPLE PROGRAM SYLLABUS
Comprehensive Curriculum
Curriculum Includes Job-readiness/Soft Skills/Health & Safety

All lesson plans and syllabi are subject to change based Certificate of Completion choices

SUMMARY
This course is an exploration of the technical skills essential to the modern workplace environment. Graduates of the Business Information Technology Specialist Diploma Program will enter the workforce with a broad scope of certifications to enrich graduate employability and income potential. Students begin the program by gaining a robust comprehension of entry level or Core IT skills. Learning will then progress into focused courses to include Project Management, Cloud Administration, Cisco Networking certification courses, and C++ Language training.

OBJECTIVE
To prepare students for post-program success by providing a rich learning environment utilizing research-based methods of instruction and providing access to relevant and current resources and materials. Students will participate in a challenging and worthwhile program based on current industry/academic expectations. The Busines Information Technology Specialist Program, will provide students with a roadmap to gainful employment by instruction in the following courses:

• CompTIA Comprehensive Computer Technician
    • Core 1
    • Core 2
• CompTIA Network+
• CompTIA Security+
• CompTIA
• Cloud+
• AWS Cloud Services
• CompTIA Project+
• CompTIA Server+

• CompTIA Linux+
• CompTIA CySA+
• CompTIA CASP+
• C++
• Cisco CCNT
• Cisco CCNA
• Health and Safety in IT
• Job Readiness

REQUIRED MATERIAL
• Personal Computer with stable access to internet (highly recommended)
• Notebook and/or sketch book

COURSE FORMAT
• Lecture
• Instructor-Led
• Discussion/critique
• Interactive applications
• Virtual Lab time sessions

ASSIGNMENTS
Many of the course research requirements and assignments will be fulfilled during lab time, a one-hour session during in-class meetings will be dedicated to projects and task assessments.

STUDENT ASSESMENT AND GRADING - *Please reference Academic Policies and Procedures full Policy

Daily Evaluations
Students will receive a daily assignment or quiz through the Canvas LMS or external resource to verify comprehension of daily lessons

Weekly Check on Learning
A weekly test designed to verify learning and assist students in gaining confidence in knowledge.

LABs
Students will participate in various lab activities to help develop hands on understanding of curriculum. These will include resources or server based virtual machine components.

LEARNING STRUCTURE

Timeline
• 1200 clock hours
• Soft Skills and Health and Safety Training – 80 clock hours • Core classes – 560 clock hours
• Program Specialization – 560 clock hours

Learning Outcome
• Each week will feature an interactive check on learning with a level specific handout.
• Upon completion of each course students are expected to complete the associated certification exam. Those who require additional training, do not earn a passing score on the certification examination during the core program courses will be provided with additional training during the Core and Infrastructure course. Students will then be given additional opportunities to complete their certification examinations.

Software
• UCertify, 30 Bird Media, CompTIA, practice-labs, Canvas LMS, Microsoft Azure, Campus Cafe

ATTENDANCE
Attendance daily is a mandatory requirement for all students. Any class session or activity missed, regardless of cause, reduces the opportunity for learning and may adversely affect a student's achievement. Students are responsible for class attendance and for any class work missed during an absence. Student is responsible to catch up on the missing material on his own by contacting fellow classmates or instructor.

Curriculum Breakdown

Course 1 – Section 1
"CompTIA A+"
Week 1 – **Level 1**
DAY 1 – Troubleshooting Method
DAY 2 – Motherboards & CPU's

DAY 3 – Computer Power supplies & Memory
DAY 4 – Physical Storage & Weekly Check on Learning

Week 2 – **Level 2**

DAY 1 – Input/Output devices & Displays
DAY 2 – Introduction to Networking
DAY 3 – Network Protocols
DAY 4 – Weekly Check on Learning

Week 3 – **Level 3**

DAY 1 – Wireless Networking
DAY 2 – Virtualization and Cloud Computing
DAY 3 – Windows Networking
DAY 4 – Mobile Devices & Weekly Check on Learning

Week 4 – **Level 4**

DAY 1 – Security Principles & Security Technologies
DAY 2 – Securing Devices & SOHO Networks
DAY 3 – Printing Devices & Operational Procedures
DAY 4 – Certification Exam

Course 2 – Section 2
"CompTIA Network+"
Week 1 – **Level 1:**

DAY 1 – OSI & TCP/IP Model, Network Traffic,
Ethernet Standards
DAY 2 – Switched Networks, Intro to IP
Addressing
DAY 3 – IP Addressing continued, Subnetting, IP
Addressing Workbook.
DAY 4 – IP Addressing Workbook,
Weekly Check on Learning
Week 2 – **Level 2**

DAY 1 – Private vs Public IP Addressing, IPv6 Addressing,
DHCP Services, Routed Networks
DAY 2 – Ports & Protocols, Address Resolution.
DAY 3 – Monitoring and Troubleshooting Networks
DAY 4 – Troubleshooting Methodology, Weekly Check on
Learning

Week 3 – **Level 3**

DAY 1 – Security, CIA Triad
DAY 2 – Cabling Solutions, Network Media
DAY 3 – WAN Services
DAY 4 – WAN, PAN, LAN technologies, Weekly Check
on Learning

Week 4 – **Level 4**

DAY 1 – Remote Access Methods, Site Policies, VPN's
DAY 2 – Physical Security
DAY 3 – Network Certification Review
DAY 4 – Certification Exam

Course 3 – Section 3
"CompTIA Security+"
Week 1 – **Level 1**

DAY 1 – Security Fundamentals.
DAY 2 – Understanding Risks, Risk Types
DAY 3 – Attack Vectors
DAY 4 – Cryptography Concepts, Weekly Check on
Learning

Week 2 – **Level 2**

DAY 1 – Network Fundamentals
DAY 2 – Securing Ports & Protocols
DAY 3 – Network Security Ports & Applications
DAY 4 – Securing Hosts & Data, Weekly Check on
Learning
Week 3 – **Level 3**

DAY 1 – Mobile Device/IOT Security
DAY 2 – Authentication Methods
DAY 3 – Access Control Standards
DAY 4 – Account Security, Weekly Check on Learning

Week 4 – **Level 4**

DAY 1 – Organizational Security Policies, User Training,
Physical Safety
DAY 2 – Disaster Planning & Recovery, Fault Tolerance,
Incident Response
DAY 3 – Certification Exam review and Prep
DAY 4 – Certification Exam

Course 4 – Section 4
"CompTIA Cloud+"
Week 1 – **Level 1**

Week 4 – **Level 4**

DAY 1 – Cloud Computing Fundamentals. Intro to Architecture
DAY 2 – AWS: Simple Relational Databases, Virtual Cloud Tools
DAY 3 – Manipulating Amazon AWS instances, Transfer Applications
DAY 4 – Elastic Bloc Storage, Weekly Check on Learning

Week 2 – **Level 2**

DAY 1 – Identity Management
DAY 2 – Virtual Private Cloud (VPS) Directory Services
DAY 3 – Java, DK, S3, API, Relational Databases
DAY 4 – Messaging in the Cloud, Queuing Services, Weekly Check on Learning

Week 3 – **Level 3**

DAY 1 – Restful Web Services & Connections
DAY 2 – Elastic Load Balancing & Auto Scaling
DAY 3 – Automation in the Cloud
DAY 4 – Resource Manipulations, Weekly Check on Learning

Week 4 – **Level 4**

DAY 1 – Microsoft Azure Services, .NET Environment
DAY 2 – MapReduce Platform, Hadoop, HDFS
DAY 3 – HIVE Session, Certification Exam Prep
DAY 4 – Certification Exam

Course 5 – Section 5
"CompTIA Linux+"
Week 1 – **Level 1**

DAY 1 – Performing Basic Linux Tasks
DAY 2 – Managing Users and Groups
DAY 3 – Managing Permissions and Ownership
DAY 4 – Managing Storage, Weekly Check on Learning

Week 2 – **Level 2**

DAY 1 – Managing Files and Directories
DAY 2 – Managing Kernel Modules
DAY 3 – Managing the Linux Boot Process
DAY 4 – Managing System Components, Weekly Check on Learning

Week 3 – **Level 3**

DAY 1 – Managing Devices
DAY 2 – Managing Networking
DAY 3 – Managing Package and Software
DAY 4 – Securing Linux Systems, Weekly Check on Learning

Week 4 – **Level 4**

DAY 1 – Working with Bash Scripts
DAY 2 – Automating Tasks
DAY 3 – Installing Linux, Certification Exam Review and Prep
DAY 4 – Certification Exam

Course 6 – Section 6
"CompTIA Server+"
Week 1 – Level 1
DAY 1 – Managing Server Hardware
DAY 2 – Asset Management
DAY 3 – Installing a Server.
DAY 4 – Installing and Troubleshooting Install of Server, Weekly Check on Learning

Week 2 – **Level 2**

DAY 1 – Configuring Networking
DAY 2 – Implement IP Addressing and Network Infrastructure Services
DAY 3 – Creating a Virtual Environment
DAY 4 – Performing Basic Server Configuration, Weekly Check on Learning

Week 3 – **Level 3**

DAY 1 – Administering the Server
DAY 2 – Implementing Storage Solutions
DAY 3 – Securing the Server
DAY 4 – Configuring Firewall Integration, Weekly Check on Learning

Week 4 – **Level 4**

DAY 1 – Planning and Testing Disaster Recovery
DAY 2 – Troubleshooting Server Issues
DAY 3 – Certification Review and Prep
DAY 4 – Certification Exam

Course 7 – Section 7
"Core Infrastructure"
Week 1 – Level 1
DAY 1 – CompTIA A+ Core 1 Day 1
DAY 2 – CompTIA A+ Core 1 Day 2
DAY 3 – CompTIA A+ Core 2 Day 1
DAY 4 – CompTIA A+ Core 2 Day 2

Week 2 – **Level 2**

DAY 1 – CompTIA Network+ Day 1
DAY 2 – CompTIA Network+ Day 2
DAY 3 – CompTIA Security+ Day 1
DAY 4 – CompTIA Security+ Day 2

Week 3 – **Level 3**

DAY 1 – CompTIA Cloud+ Day 1
DAY 2 – CompTIA Cloud+ Day 2
DAY 3 – CompTIA Linux+ Day 1
DAY 4 – CompTIA Linux+ Day 2

Week 4 – **Level 4**

DAY 1 – Review/**Certification Exams**
DAY 2 – Review/**Certification Exams**
DAY 3 – Review/**Certification Exams**
DAY 4 – Review/**Certification Exams**

Course 8 – Section 8
"AWS Cloud Services"
Week 1 – Level 1

DAY 1 – Pre-Course Survey, Introduction to AWS
DAY 2 – Cloud Concepts Overview, Moving to the AWS Cloud
DAY 3 – Cloud Economics and Billing, AWS Organizations, Console Demonstration
DAY 4 – Technical Support Modules, Student Guide, Weekly Check on Learning

Week 2 – **Level 2**

DAY 1 – AWS Global Infrastructure, Services & Service Categories
DAY 2 – Accounts & Data
DAY 3 – Compliance
DAY 4 – Shared Responsibility Model, Weekly Check on Learning

Week 3 – **Level 3**

DAY 1 – Networking and Content Delivery, Networking Basics
DAY 2 – Amazon VPC, Networking, Security, Route 53, CloudFront,
DAY 3 – Compute Services, Storage Services
DAY 4 – Databases, Weekly Check on Learning

Week 4 – **Level 4**

DAY 1 – Cloud Architecture
DAY 2 – Performance Efficiency
DAY 3 – Auto Scaling and Monitoring, Certification Review and Prep
DAY 4 – Certification Exam

Course 9 – Section 9
"CompTIA CySA+"
Week 1 – **Level 1**
DAY 1 – Explaining the Importance of Security Controls and Security Intelligence
DAY 2 – Utilizing Threat Data and Intelligence
DAY 3 – Classify Threats and Actor Types
DAY 4 – Analyzing Security Monitoring Data, Weekly Check on Learning

Week 2 – **Level 2**

DAY 1 – Collecting and querying Security Monitoring Data
DAY 2 – Utilizing Digital Forensics and Indicator Analysis Techniques
DAY 3 – Analyze: Network IoC's, Host-Related IoC's Pivot IoC's
DAY 4 – Applying Incident Response Procedures, Weekly Check on Learning

Week 3 – **Level 3**

DAY 1 – Applying Risk Mitigation and Security Frameworks
DAY 2 – Frameworks, Policies and Procedures
DAY 3 – Performing Vulnerability Management
DAY 4 – Infrastructure Vulnerability Scanners, Weekly Check on Learning

Week 4 – **Level 4**

DAY 1 – Applying Security Solutions for Software Assurance
DAY 2 – Applying Security Solutions for Cloud and Automation
DAY 3 – Certification Exam Review and Prep
DAY 4 – Certification Exam

Course 10 – Section 10
"CompTIA CASP+"
Week 1 – **Level 1**

DAY 1 – Supporting IT Governance and Risk Management
DAY 2 – Leveraging Collaboration to Support Security
DAY 3 – Using Research and Analysis to Secure the Enterprise
DAY 4 – Integrating Advanced Authentication and Authorization Techniques, Weekly Check on Learning

Week 2 – **Level 2**

DAY 1 – Implementing Cryptographic Techniques
DAY 2 – Implementing Security Controls for Hosts
DAY 3 – Implementing Security Controls for Mobile Devices

DAY 4 – Implementing Network Security, Weekly Check on Learning

Week 3 – **Level 3**

DAY 1 – Implementing Security in the Systems and Software Development Lifecycle
DAY 2 – Integrating Assets in a Security Enterprise Architecture
DAY 3 – Conducting Security Assessments
DAY 4 – Weekly Check on Learning

Week 4 – **Level 4**

DAY 1 – Responding to and Recovering from Incidents
DAY 2 – Conducting Incident Response and Forensic Analysis
DAY 3 – Certification Exam Review and Prep
DAY 4 – Certification Exam

Course 11 – Section 11
"Job Readiness"
Week 1 – **Level 1:**

DAY 1 – Interests, Aptitudes, Values, Career Transitioning, Microsoft Office Suite Training.
DAY 2 – Goal Setting
DAY 3 – Job Lead Resource / Research
DAY 4 – Interviewing Skills, Etiquette (Grooming, Social, Appearance)

Week 2 – **Level 2**

DAY 1 – Resume Writing, Design, Produce
DAY 2 – Lecture/Assignment – Business Correspondence Skills, Career Transitions
DAY 3 – Technology Skills, Office Applications
DAY 4 – Cultural Awareness, Social Media Etiquette, Punctuality

Week 3 – **Level 3**

DAY 1 – Health & Safety Introduction, Statistics, Alcohol and Drugs in the Workplace
DAY 2 – Ergonomics in the workplace, Introduction to IT Safety Practices

DAY 3 – IT Safety Practices Continued, Hands on with ESD Matts/Straps
DAY 4 – OSHA Standards of Safety

Week 4 – **Level 4**

DAY 1 – Personal Protective Equipment Hands-on
DAY 2 – Electrical Safety, Fire Safety, Platform Safety
DAY 3 – Code of Conduct/Ethics workshop

DAY 4 – Practical Exercise

Course 12 – Section 12
"CCENT"
Week 1 – **Level 1**

DAY 1 – Network Fundamentals, TCP/IP Review
DAY 2 – Implementing Basic Ethernet LANs
DAY 3 – Fundamentals of IPv4 Addressing and Routing
DAY 4 – Ethernet LANs; Design, VLANs, and Troubleshooting, Weekly Check on Learning

Week 2 – **Level 2**

DAY 1 – IP Version 4 Addressing and Subnetting-1
DAY 2 – IP Version 4 Addressing and Subnetting-2
DAY 3 – Operating IP on Cisco Routers
DAY 4 – DHCP, Network Hosts Commands in Cisco Systems, Weekly Check on Learning

Week 3 – **Level 3**

DAY 1 – Ipv4 Design and Troubleshooting.
DAY 2 – Variable Length Subnet Masks
DAY 3 – VLAN Troubleshooting, NAT, DHCP
DAY 4 – Ipv6, Weekly Check on Learning

Week 4 – **Level 4**

DAY 1 – IPv6 Fundamentals, Subnetting, Routers, Switches
DAY 2 – Network Device Management
DAY 3 – Certification Exam Review and Prep
DAY 4 – Certification Exam

Course 13 – Section 13
"CCNA"
Week 1 – **Level 1**

DAY 1 – Network Fundamentals, Routers: L2/L3 Switches
DAY 2 – Network Topologies and Architectures
DAY 3 – Interfaces, CLI, Tiers of Services
DAY 4 – Layer 4 Technologies, Check on Learning

Week 2 – **Level 2**

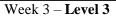**DAY 1** – Network Access, Configure and Verify VLAN's
DAY 2 – Interswitch Connectivity
DAY 3 – Configure and Verify Layer 2 Discovery Protocols
DAY 4 – Compare Cisco Wireless Architectures and AP Modes, Weekly Check on Learning

Week 3 – **Level 3**

DAY 1 – IP Connectivity, Routing Protocol Code, Netmask.
DAY 2 – Determining Router Forwarding Decisions
DAY 3 – Configuring IPv4/IPv6 Static Routing
DAY 4 – Hop Redundancy protocols, Routing Metrics,
Weekly Check on Learning

Week 4 – **Level 4**

DAY 1 – Security Fundamentals, Key Concepts, Threats,
Vulnerabilities, Exploits
DAY 2 – Security Program Elements, Access Control,
Automation and Programmability
DAY 3 – REST-based APIs (CRUD, HTTP, verbs,
data encoding), Exam Review & PREP
DAY 4 – Certification Exam

Course 14 – Section 14

"CompTIA Project+"

Week 1 – **Level 1**
DAY 1 – Core Properties of a Project, Different
Project Types
DAY 2 – Classifying Project Roles and Responsibilities
DAY 3 – Identify the Basics of Project Cost Control
DAY 4 – Identify Common Project Team Organizational
Structures, Weekly Check on Learning

Week 2 – **Level 2**

DAY 1 – Execute and Develop Project Schedules
DAY 2 – Identify the Basic Aspects of the Agile Methodology
DAY 3 – Explain the Importance of Human Resource,
Physical Resources, and Personnel Management
DAY 4 – Project, Weekly Check on Learning

Week 3 – **Level 3**

DAY 1 – Predict the Impact of Various Constraint Variables
and Influences Throughout a Project
DAY 2 – Explain the Importance of Risk Strategies and Activities
DAY 3 – Use of Appropriate Communication Methods
DAY 4 – Weekly Check on Learning