

2018-2021 Strategic Technology Roadmap

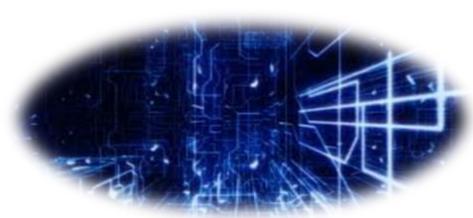


Table of Contents

CIO Executive Summary.....	4
Information Technology Services Mission, Vision, and Value Statements.....	6
3 – Year Roadmap at a Glance.....	7
Table 1: Strategic Theme 1 – Hardening and Capacity Building.....	7
Objective 1.1: ITSM Frameworks and Best Practices.....	7
Objective 1.2: Professional Standards, Acumen, and Philosophy.....	7
Objective 1.3: Timely and Accurate Information Flows.....	8
Objective 1.4: Enterprise Architecture planning, collaboration, and documentation.....	8
Objective 1.5: Customer and College-first Centric Operation and Support.....	8
Objective 1.6: Hybrid Cloud Computing.....	8
Objective 1.7: SUNY – ESC Wireline Network.....	9
Objective 1.8: Quality Assurance and Continuous Improvement.....	9
Table 2: Strategic Theme 2 – Leveraging the New Infrastructure.....	9
Objective 2.1: Data Governance, End-User Security Classes and Permissions.....	9
Objective 2.2: Managerial Finance and Resource Stewardship.....	10
Objective 2.3: Strengthened Network Architecture and Cyber Infrastructure.....	10
Objective 2.4: Investment in Stakeholder Commitment.....	10
Objective 2.5: Improved IT Financial Planning and Forecasting.....	10
Objective 2.6: Improve Professional Development and Total Cost of Ownership.....	11
Objective 2.7: Asset Management.....	11
Objective 2.8: NIST Cybersecurity Framework.....	11
Table 3: Strategic Theme 3 – Innovating.....	12

Objective 3.1: Increase digital media productions through co-sponsored and requirements.....	12
Objective 3.2: Enhance college wide ITS communication, training, and syndication.....	12
Objective 3.3: IT Governance and Persistent Value.....	12
Objective 3.4: ITS Quality Assurance and Continuous Improvement.....	13
Objective 3.5: College-wide technical support.....	13
Objective 3.6: Learning Management System/Platforms.....	13
Objective 3.7: College-wide educational technology support.....	14
Objective 3.8: Reconciliation of all digital media tools and processes.....	14
Locations of ITS Support and Service.....	15
SUNY Empire State College Tier 1 Map Strategic Plan.....	16
Aligning and mapping to the College Strategic Plan Objectives.....	16
Glossary of Terms.....	18
Endorsement and Patronage.....	23

Higher Education Information Technology Services of Tomorrow

CIO Executive Summary

I tell you, my fellow Americans, that if we learned anything from the collapse of the Berlin Wall and the fall of the governments of Eastern Europe, even a totally controlled society cannot resist the winds of change that economics and technology and information flow have imposed in this world of ours.¹

The national and international higher education conversation has been in agreement for almost a decade now that the need to operate and compete globally has fully impacted higher education. Of the Carnegie Commission on Higher Education only a small minority of high volume research activity institutions are not incentivized in the same ways to change and innovate. For the rest of us, the new flat world² of consumerism has cemented an economic demand upon largely teaching and learning institutions to change and innovate, in order to maintain market relevance. Our students, both nascent and current, demand we shift our foci both administratively and pedagogically to them first, and all internal stakeholders secondary. Despite rhetoric preference, the new paradigm of the higher education *marketplace* evinces that our students economically demand to be treated as such, at all stages of the student life-cycle.

The value proposition of technology exists along the entire student lifecycle. Over the past 3 years, we have altogether reimagined an information technology services organization in service to the entire college, and its students. In year 1, FY15/16, we reimagined organizationally, by aligning ITS with 21st century principles of IT organizational structure, represented by each neoclassical IT

¹ *Public Paper of the President of the United State: William J. Clinton, 1993*, Book 2. Washington, DC: U.S. Government Printing Office, 1994, 2139–42.

² Friedman, T. L. (2005). *The world is flat: A brief history of the twenty-first century*. New York: Farrar, Straus and Giroux.

reference discipline; (i.) Enterprise Infrastructure and Systems, (ii.) Enterprise Architecture and Applications, (iii.) Emerging and Educational Technologies, (iv.) User Technical Support, (v.) Information Security, and (vi.) Project Management. In year 2, FY16/17, we reimagined strategically and operationally by revamping, retooling, and reengineering our statewide infrastructure of voice, data, and video traffic, and embracing new partnerships to achieve cloud computing and enterprise software innovations mapping to, and informed by, future state business processes, in administration, enrollment management, and academics. And in year 3, FY17/18, we began our reemergence as a 21st century technology organization in service to the entire college community.

Over the next 3 years, as we continue to reemerge from our 2015–2018 operationally and financially aggressive technology strategy, mostly due to continuing enterprise software implementations (i.e., CRM, ERP, Document Management, and LMS), a shift towards hardening capacity for users is key, if return on investment is to be achieved at a reasonable rate of return. Additional legacy systems that were left on the table during 2015–2018 due to resource allocation constraints, financial capital limits, and organizational change capacity, must be brought to obsolescence. Retiring and in necessary instances, replacing, these legacy systems needs to be achieved through collaborative engagement and design with administrative, enrollment management, academic leadership, and governance, to ensure these retirements and/or replacements support the strategic and operational needs of the entire college. This collaborative engagement and thought leader inspired design, is an essential element of hardening capacity and adoption for all our college stakeholders. A reemergence that targets college strategic goals and objectives first, will positively affect continuous improvement by leveraging our new infrastructure, and unleashing innovation, not only within the Office of Information Technology Services, but the college at large.

“Innovation is not a big breakthrough invention every time. Innovation is a constant thing. But if you don’t have an innovative company, coming to work every day to find a better way, you don’t have a company. You’re getting ready to die on the vine.”

-Jack Welch

Empire State College's Information Technology Services Mission, Vision, and Value Statements

Mission Statement

The Office of Information Technology Services serves to provide support, coordination, management, and leadership to the administrative and academic computing initiatives and activities of SUNY Empire State College. Functioning as a service organization, the Office of Information Technology Services works collaboratively across the College community to:

- Enable and consistently improve SUNY Empire State College's administrative technologies to deliver quality education services and outcomes based on data-informed decisions.
- Provide innovative, connected, and sustainable technology environments and services where teaching and learning can occur anytime and anyplace.
- Digitally connect SUNY Empire State College's stakeholders together locally and globally through information and communication technologies.
- Collaboratively research and explore new and advanced modes of teaching and learning via emerging technologies and tools related to 21st century higher education in support of SUNY Empire State College's mission, vision, and goals.
- Ensure secure, reliable, and stable enterprise technology system design, training opportunities, and support that mitigate modern cybersecurity risks.

Vision Statement

SUNY Empire State College Office of Information Technology Services will function in a unified manner in the delivery and maintenance of academic, administrative, and general campus information and communication technology services. Appropriate standards, processes, and procedures for technology service management and delivery will be followed to meet the priorities of the College, while keeping College information assets secure and available. Information Technology Services will be responsive to the needs of its constituencies; provide technology leadership, solutions, and quality services; and be strategically aligned with the mission and direction of the College.

Values Statement

SUNY Empire State College Office of Information Technology Services affirms the following core values:

1. An environment of integrity, mutual trust, transparency, and open communication.
2. An ideal of excellence, fostered by a belief in quality, teamwork, and service.
3. An esprit de corps personified by a positive attitude toward our work.

4. A spirit of courage and healthy risk-taking that nurtures technological creativity, innovation, and leadership.
5. An appreciation and mutual respect for diverse and inclusive backgrounds and opinions.

3-Year Roadmap at a Glance

Strategic Theme 1: Hardening and Capacity Building – How we partner and serve stakeholders to internalize and adopt technology changes; ensuring adoption and incorporation into everyday business. To ensure a sense of stability and aid employees to feel confident and comfortable with the new ways of working.

Strategic Theme 2: Leveraging the New Infrastructure – How we achieve environmental variation and affect continuous improvement to bring about optimal academic and administrative technology value.

Strategic Theme 3: Innovating – How we empower our modern technology ecosystem to adopt a variety of strategies, both planned and intuitional, to export our products and services, and facilitate technology innovation.

Table 1: Strategic Theme 1 – Hardening and Capacity Building

Objective 1.1: IT Service Management (ITSM) Frameworks and Best Practices

Measurement: Capabilities maturity model index ranking and ITIL Framework

Baseline: 4 of 26 ITIL practices currently in place

Target: Level three capabilities maturity model index (CMMI) ranking by end of plan and at least 1 additional ITIL practice added each year

Objective 1.2: Professional Standards, Acumen, and Philosophy

Measurement: Annual Performance Program review and assessment

Baseline: Zero cited items in the Key Actions Assessment of the 2015 – 2018 ITS Strategic Roadmap

Target: Level three CMMI ranking by end of plan

Objective 1.3: Timely and Accurate Information Flows

Measurement: Quarterly reporting from each ITS group against strategic technology plan

Baseline: Current as of FY 2018

Target: Delivered quarterly

Objective 1.4: Enterprise Architecture planning, collaboration, and documentation

Measurement: How many ESC divisional/departmental solutions have been architected and implemented in current Enterprise Information Systems Architecture (EISA)

Baseline: ESC EISA Timeline and Dependencies Gant chart in place by before close of FY2018

Target: Retire (obsolescence), or replace, at least 3 legacy systems per year

Objective 1.5: Stakeholder and College-first Centric Operation and Support

Measurement: Posted business hours and on an emergency (<https://www.esc.edu/service-desk/>)

Baseline: Varies by ITS group (i.e., line of business – LOB)

Target: Establish and achieve 100% compliance with service level agreement protocols across all ITS groups/LOB's

Objective 1.6: Hybrid Cloud Computing

Measurement: Secure hosting and backup of secondary enterprise applications and services that support the administrative and business operations of the Institution

Baseline: University at Albany Data Center design and buildout

Target: Build College secondary data center operations by partnering with a tier 3 infrastructure/rack space provider, preferably a SUNY recognized Research Education Network or IaaS provider

Objective 1.7: SUNY – ESC Wireline Network

Measurement: Quarterly reporting of ESI progress, refresh, and topological mapping

Baseline: 3-year planning cycle and overall EISA

Target: Depict graphically the College WAN to illustrate how the ecosystem works in concert with a coherent technology roadmap, mission, and vision

Objective 1.8: Quality Assurance and Continuous Improvement

Measurement: Enterprise Information Systems Architecture (EISA) documented and updated

Baseline: Current EISA artifacts

Target: Bi-annual review and assessment of all College enterprise applications

Table 2: Strategic Theme 2 – Leveraging the New Infrastructure

Objective 2.1: Data Governance, End-User Security Classes and Permissions

Measurement: Data Maturity Model and NIST CSF

Baseline: ESC data governance group initiated in FY2016

Target: Bi-monthly, cross-functional, data governance committee. A Change Advisory Board (CAB) in ServiceNow™ for data definitions, data cook book updates, and Role Based Access

Control (RBAC) changes

Objective 2.2: Managerial Finance and Resource Stewardship

Measurement: Bi-monthly reporting at directors meeting by director

Baseline: Services already available, quarterly reporting is not

Target: Comprehensive view of overall budget; variance, gaps, burn rate

Objective 2.3: Strengthened Network Architecture and Cyber Infrastructure

Measurement: SDLC milestones in accordance with a fully operational, PCI segmented, and fully-meshed secure network topology via annually updated topology map. Resilient, fully redundant, secure, and scalable network in operation

Baseline: Partial PCI segmentation, no topology map. Multi-node network with 40Gb backplane between switches at-large locations

Target: Fully meshed-network with at least a 1Gb backbone to Large locations and 100Mb to smaller locations, capacity, and statewide transit exchange by end of plan.

Objective 2.4: Investment in Stakeholder Commitment

Measurement: Total number of co-sponsored initiatives

Baseline: At least 2 co-sponsored initiatives annually and adherence to SDLC; to include business analysis techniques

Target: Continuous engagement in LMS, ERP, and ancillary systems, as well access databases migration

Objective 2.5: Improved IT Financial Planning and Forecasting

Measurement: Five-year budget forecast mapping-to, and informed-by, the Strategic Financial Plan

Baseline: FY17-18 Budget preparation

Target: Five-year budget forecast updated annually

Objective 2.6: Improve Professional Development and Total Cost of Ownership

Measurement: For each new technology system added to the stack the TCO estimate will include professional development investment

Baseline: FY16/17 and FY17/18 ITS Skills Gaps Matrix

Target: Total aggregate annual investment in professional development includes allocation for existing and nascent technologies as required to achieve bi-modal IT efficacy across all of ITS. A future state ITS Skills Gaps Matrix and training guide

Objective 2.7: Asset Management

Measurement: ServiceNow™ Asset Management and Procurement module fully implemented to include workflow, CAB, and reporting on an ad-hoc and quarterly basis

Baseline: Not currently in place

Target: Implement a robust asset management program and regularly audit and maintain accurate records of College hardware and software assets

Objective 2.8: NIST Cybersecurity Framework

Measurement: NIST Framework Implementation Tiers

Baseline: Tier 1 (Partial)

Target: Achieve Tier 3 (Repeatable) by end of plan. Tier 3 is characterized by (i.) risk management processes, (ii.) integrated risk management processes, and (iii.) external participation

(i.) The colleges cyber security risk management practices are formally approved and expressed as policy. College cybersecurity practices are regularly updated based on the application of risk management processes to changes in business/mission requirements and a changing threat and technology landscape

(ii.) There is a college-wide approach to manage cybersecurity risk. Risk-informed policies, processes, and procedures that are defined, implemented as intended, and reviewed. Consistent methods be put in place to respond effectively to changes in risk. Personnel possess the knowledge and skills to perform their appointed roles and responsibilities

(iii.) The college understands its dependencies and partners and receives information from these partners that enables collaboration and risk-based management decisions within the organization in response to events

Table 3: Strategic Theme 3 – Innovating

Objective 3.1: Increase digital media productions through co-sponsored and requirements

Measurement: Annual benchmark number of rich digital media for each college division/department

Baseline: Not currently in place

Target: Commence after the spring 2018 ITS Quarterly meeting

Objective 3.2: Enhance college wide ITS communication, training, and syndication

Measurement: Articulated and communicated request process for ESCTV content and SLA's

Baseline: Not currently in place

Target: Build service catalog category related to IT-focused content syndication with clearly defined pathways to communication

Objective 3.3: IT Governance and Persistent Value

Measurement: Share in IT communications (internal & external), reporting, and feedback loop

from the college community at-large

Baseline: Currently in place; ITS Quarterly meetings, ITS monthly All-Directors meetings, ITC annual retreat, tech-tips, All-Users email protocol, Service Desk Announcements

Target: ITS focus groups, round-robin activities quarterly, annual SWOT analysis, and quarterly awards

Objective 3.4: Information Technology Services Quality Assurance and Continuous Improvement

Measurement: All-director review, monthly, of survey data results

Baseline: ServiceNow™ automated survey mechanism (i.e., assessment), Office of Administration survey mechanism (assessment)

Target: Feedback loop mechanism of survey data to overall ITS continuous improvement efforts to commence spring 2018

Objective 3.5: College-wide technical support

Measurement: 1 full FTE supporting each location during all hours of operation

Baseline: Current level of operations and support

Target: Ensure technical support at each of our locations during posted business hours

Objective 3.6: Learning Management System/Platforms

Measurement: Not currently in place

Baseline: Current level of operations and support

Target: Implement and administer the nascent LMS resulting from the LMS Steering Committee, as

well implement and administer interoperating ancillary system(s) in accordance with the LMS Steering Committee.

Objective 3.7: College-wide educational technology support

Measurement: 1 full FTE available through the service desk during all hours of operation

Baseline: Current level of operations and support

Target: Ensure educational technology support available at each location during normal business hours either on-site or virtually

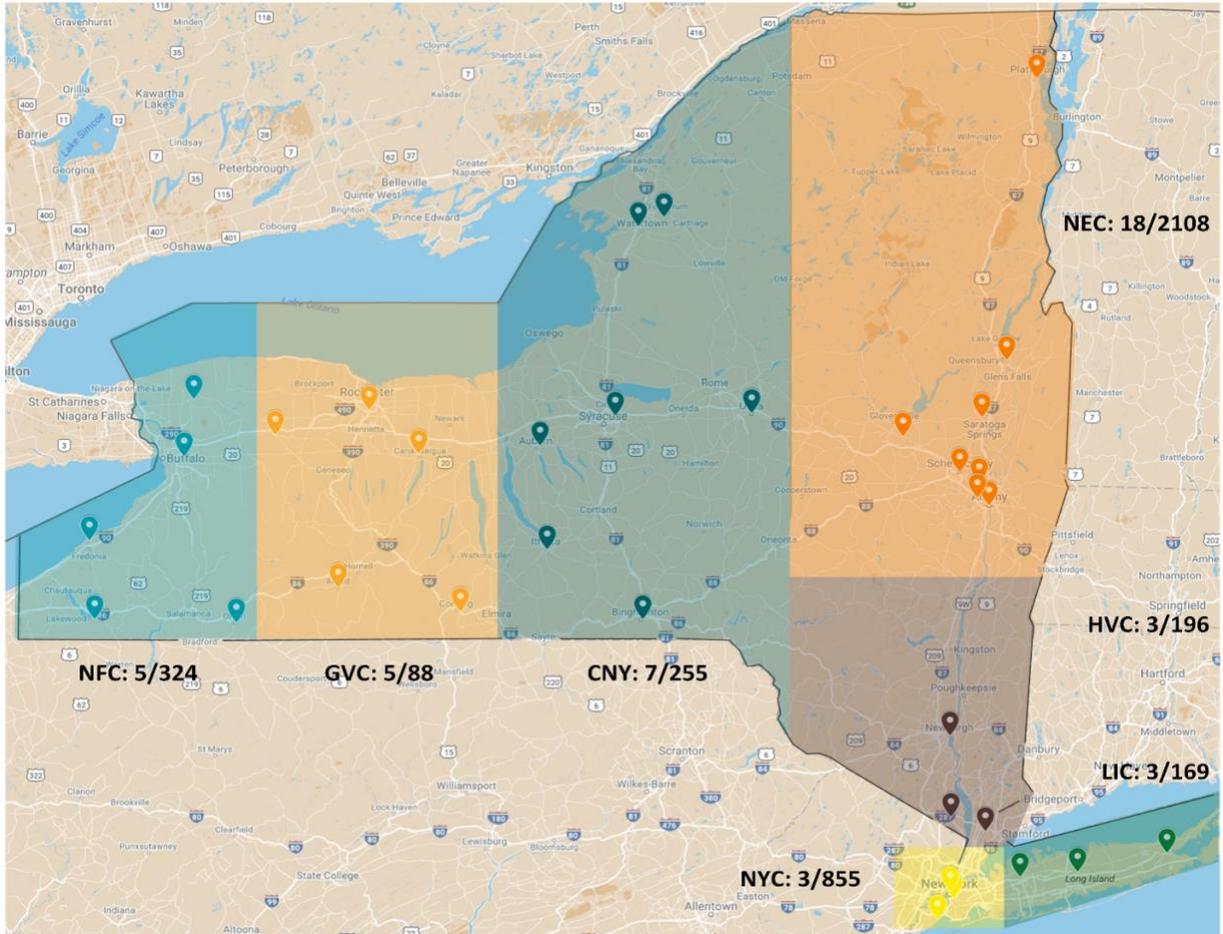
Objective 3.8: Reconciliation of all digital media tools and processes

Measurement: Dedicated staff to enhance the college's digital media productions output and management

Baseline: Not currently in place

Target: Align ITS lines of businesses (LOB's) affecting digital media productions (DMP) to support new college DMP initiatives, improvement of current DMP processes, and staff skill development in support of DMP

Locations of ITS Support and Service



40+ spread across 35,000 square miles

SUNY Empire State College Tier 1 Map Strategic Plan



Going for the Gold: Empire State College at 50, 2021 and Beyond

Description: ITS Strategic Themes and Objectives as they map to, and are informed by, SUNY ESC strategic objectives.

Strategic Theme 1: Hardening and Capacity Building – How we partner and serve stakeholders to internalize and adopt technology changes; ensuring adoption and incorporation into everyday business. To ensure a sense of stability and aid employees to feel confident and comfortable with the new ways of working.

ITS Strategic Theme 1 and its objectives – as they map to, and are informed by, the **ESC strategic plan document Objectives**;

- Objective #2 Improve service excellence
- Objective #4 Enhance and leverage technology and facilities
- Objective #6 Improve and diversify student support services
- Objective #7 Strengthen communication
- Objective #8 Improve efficiencies across the college
- Objective #11 Strengthen resource stewardship

Strategic Theme 2: Leveraging the New Infrastructure – How we achieve environmental variation and affect continuous improvement to bring about optimal academic and administrative technology value.

- Objective #1 Increase innovation across the college
- Objective #3 Enhance diversity, inclusion and equity
- Objective #4 Enhance and leverage technology and facilities
- Objective #5 Diversify and strengthen academic programs
- Objective #6 Improve and diversify student support services
- Objective #8 Improve efficiencies across the college
- Objective # 9 Increase and diversify revenue streams
- Objective #11 Strengthen resource stewardship
- Objective #14 Improve retention and graduation rates across all populations
- Objective #15 Enhance reputation

Strategic Theme 3: Innovating – How we empower our modern technology ecosystem to adopt a variety of strategies, both planned and intuitional, to export our products and services, and facilitate technology

- Objective #1 Increase innovation across the college
- Objective #2 Improve service excellence
- Objective #3 Enhance diversity, inclusion and equity
- Objective #4 Enhance and leverage technology and facilities
- Objective #5 Diversify and strengthen academic programs
- Objective #6 Improve and diversify student support services
- Objective #7 Strengthen communication
- Objective #8 Improve efficiencies across the college
- Objective # 9 Increase and diversify revenue streams
- Objective #11 Strengthen resource stewardship
- Objective #14 Improve retention and graduation rates across all populations
- Objective #15 Enhance reputation

Glossary of Terms

Asset Management or IT asset management (ITAM) – Is the set of business practices that join financial, contractual and inventory functions to support life cycle management and strategic decision making for the IT environment. Assets include all elements of software and hardware that are found in the business environment.

Business Analysis (BA) – The term Business Analysis refers to the formal practice of enabling change in an organizational context, by defining needs and recommending solutions that deliver value to stakeholders.

Business Continuity Planning (BCP) - Business Continuity Planning (also referred to as Continuity of Operations Planning or COOP) focuses on essential business functions. It is a collection of resources, actions, procedures, and information that is developed, tested, and held in readiness for use in the event of a major disruption of operations. BCPs help prepare the College units to maintain mission-critical operations after any emergency or disaster.

Business Intelligence (BI) – an umbrella term that refers to a variety of software applications used to analyze an organization’s raw data. BI as a discipline is made up of several related activities, including data mining, online analytical processing, querying and reporting.

Business Process Modeling and Notation (BPMN) – refers to a standard for business process modeling that provides a graphical notation for specifying business processes in a Business Process Diagram (BPD), based on a flowcharting technique very similar to activity diagrams from Unified Modeling Language (UML). The objective of BPMN is to support business process management, for both technical users and business users, by providing a notation that is intuitive to business users, yet able to represent complex process semantics.

Centralized Authentication Service (CAS) – refers to a Single-Sign-On protocol for the Web. Its purpose is to permit a user to access multiple applications while providing their credentials (such as user-id and password) only once. CAS also allows Web applications to authenticate users without gaining access to a user's security credentials, such as a password. The term CAS also refers to a software package that implements this protocol.

Cloud Computing – the practice of using a network of remote servers hosted on the Internet to store, manage, and process data, rather than a local server or a personal computer.

Consumerism – is a social and economic order and ideology that encourages the acquisition of goods and services in ever-increasing amounts. With the industrial revolution, but particularly in the 20th century, mass production led to an economic crisis: there was overproduction — the supply of goods would grow beyond consumer demand, and so manufacturers turned to planned obsolescence and advertising to increase consumer spending.

Continuity of Operations Plan (COOP) – A Continuity of Operations Plan (also referred to as Business Continuity Planning or BCP) focuses on essential business functions. A COOP involves a collection of resources, actions, procedures, and information that are developed, tested, and held in

readiness for use in the event of a major disruption of operations. COOPs help prepare the College locations to maintain mission-critical operations after any emergency or disaster.

Continuous Improvement (CI) – A continual improvement process, also often called a continuous improvement process (abbreviated as CIP or CI), is an ongoing effort to improve products, services, or processes. These efforts can seek "incremental" improvement over time or "breakthrough" improvement all at once. Delivery (stakeholder valued) processes are constantly evaluated and improved in the light of their efficiency, effectiveness, and flexibility.

Cybersecurity, computer security, or Information Security & Assurance (IS&A) – is the protection of computer systems from the theft and damage to their hardware, software, or information, as well as from disruption or misdirection of the services they provide. Cybersecurity includes controlling physical access to the hardware, as well as protecting against harm that may come via network access, data and code injection. Also, due to malpractice by operators, whether intentional or accidental, IT security is susceptible to being tricked into deviating from secure procedures through various methods. The field is of growing importance due to the increasing reliance on computer systems and the Internet, wireless networks such as Bluetooth and Wi-Fi, the growth of “smart” devices, including smartphones, televisions, and tiny devices as part of the Internet of Things.

Disaster Recovery (DR) – refers to the process, policies, and procedures that are related to preparing for recovery or continuation of technology infrastructure, which are vital to an organization after a natural or human-induced disaster. Disaster recovery focuses on the IT or technology systems that support business functions, as opposed to business continuity, which involves planning for keeping all aspects of a business functioning in the midst of disruptive events.

Enterprise Architecture or The Open Group Architecture Framework (TOGAF) – Is a framework for enterprise architecture that provides an approach for designing, planning, implementing, and governing an enterprise information technology architecture. TOGAF is a high-level approach to design. It is typically modeled at four levels: Business, Application, Data, and Technology. It relies heavily on modularization, standardization, and already existing, proven technologies and products. TOGAF was developed starting 1995 by The Open Group, based on DoD's TAFIM. As of 2016, The Open Group reports that TOGAF is employed by 80% of Global 50 companies and 60% of Fortune 500 companies.

Enterprise Resource Planning (ERP) – refers to a business process management concept that allows the College to use a system of integrated applications to manage its business and automate back office functions. ERP concepts evolve around central data-centric software, in the case of the College: currently Datatel Colleague.

Hybrid Cloud – Hybrid cloud is a cloud computing environment that uses a mix of on-premises, private cloud and third-party, public cloud services with orchestration between the two platforms.

Information and Communication Technologies (ICT) – a term often used as an extended synonym for information technology (IT), but is a more specific term that stresses the role of unified communications and the integration of telecommunications (telephone lines and wireless

signals), computers as well as necessary enterprise software, middleware, storage, and audio-visual systems, which enable users to access, store, transmit, and manipulate information.

Information Technology Ecosystem – a term that refers to the network of functional areas that drives the creation and delivery of information technology projects, products, and services. The health and well-being of an IT organization in the context of an ecosystem involves use of information technology metrics, namely productivity, robustness, and innovation.

Information Technology Infrastructure Library (ITIL) – refers to a set of best practices for IT service management that focuses on aligning IT services with the business needs of the institution.

Information Technology Providers – refers to College personnel who provide IT related services across the state.

Information Technology Service Management (ITSM) – refers to the entirety of activities – directed by policies, organized and structured in processes and supporting procedures – that are performed by an organization to design, plan, deliver, operate and control information technology (IT) services offered to customers. It is thus concerned with the implementation of IT services that meet customers' needs, and it is performed by the IT service provider through an appropriate mix of people, process and information technology.

Learning Management System (LMS) – is a software application for the administration, documentation, tracking, reporting and delivery of educational courses or training programs. They help the instructor/faculty-mentor deliver material to the students, administer tests and other assignments, track student progress, and manage record-keeping. LMSs are focused on online learning delivery but support a range of uses, acting as a platform for fully online courses, as well as several hybrid forms, such as blended learning and flipped classrooms. LMSs can be complemented by other learning technologies such as a training management system to manage instructor-led training or a Learning Record Store to store and track learning data.

Legacy Systems – denoting software or hardware that has been superseded but is difficult to replace because of its wide use.

Line of business (LOB) – is a general term which refers to a product or a set of related products that serve a particular customer transaction or business need.

Managerial finance – Is the branch of finance that concerns itself with the managerial significance of finance techniques. It is focused on assessment rather than technique.

Market – is one of the many varieties of systems, institutions, procedures, social relations and infrastructures whereby parties engage in exchange.

NIST Cybersecurity Framework (NIST CSF) – provides a policy framework of computer security guidance for how private-sector and public-sector organizations in the United States can assess and improve their ability to prevent, detect, and respond to cyber-attacks. It "provides a high-level taxonomy of cybersecurity outcomes and a methodology to assess and manage those outcomes." Version 1.0 was published by the US [National Institute of Standards and Technology](#) in 2014, originally aimed at operators of [critical infrastructure](#). Is being used by a wide range of

businesses and organizations, and helps shift organizations to be proactive about risk management. In 2017, a draft version of the framework, version 1.1, was circulated for public comment.

Obsolescence (*within technology*) – technical obsolescence usually occurs when a new product or technology supersedes the old, and it becomes preferred to use the new technology in place of the old. Historical examples of superseding technologies causing obsolescence include bronze replacing flint in hand tools, higher-quality multimedia DVD over videocassette recorder and the telephone, with audio transmission, over the telegraph's coded electrical signals. On a smaller scale, particular products may become obsolete due to replacement by a newer version of the product. Many products in the computer industry become obsolete in this manner; for example, Central processing units frequently become obsolete in favor of newer, faster units. Singularly, rapid obsolescence of data formats along with their supporting hardware and software can lead to loss of critical information, a process known as digital obsolescence.

Operational Data Store (ODS) – refers to a database designed to integrate data from multiple sources for self-service and advanced report operations on the data.

Online Analytical Processing (OLAP) – refers to an approach to answering multi-dimensional analytical (MDA) queries swiftly. OLAP is part of the broader category of business intelligence, which also encompasses relational database, report writing, and data mining.

Online Transactional Processing (OLTP) – refers to a class of information systems that facilitate and manage transaction-oriented applications, typically for data entry and retrieval transaction processing.

Rate of Return (ROR) – is a profit on an investment over a period of time, expressed as a proportion of the original investment.

Return on Investment (ROI) – is a return per dollar or production input invested. It is a measure of financial or productive investment performance, as opposed to size.

Role-Based Access Control (RBAC) – Is an approach to restricting system access to authorized users. It is used by the majority of enterprises with more than 500 employees, and can implement mandatory access control (MAC) or discretionary access control (DAC). RBAC is sometimes referred to as role-based security. Role-based-access-control (RBAC) is a policy neutral access control mechanism defined around roles and privileges. The components of RBAC such as role-permissions, user-role and role-role relationships make it simple to perform user assignments. A study by NIST has demonstrated that RBAC addresses many needs of commercial and government organizations.

Service Catalog – refers to an exhaustive list of IT services that an organization provides or offers to its employees or customers. The catalog is the only part of the Service Portfolio that is published to customers and is used to support the adoption and/or delivery of IT services.

Service Management (Framework) – The term Service Management refers to a customer-focused approach to delivering information technology. Service Management focuses on providing value to the customer and also on the customer relationship. Service Management provides a framework to

structure IT-related activities and the interactions of IT technical personnel with customers and clients.

Single-Sign-On (SSO) – refers to a mechanism whereby a single action of user authentication and authorization can permit a user to access all computers and systems where he has access permission, without the need to enter multiple passwords.

Stakeholder – refers to anyone with an interest or concern with a product, project, or service, and anyone who can have an impact upon a product, project, or service.

Syndication – content is made available from one website to other sites. Most commonly, websites are made available to provide either summaries or full renditions of a website's recently added content.

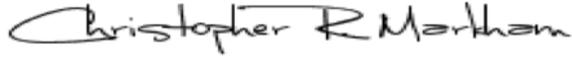
Total Cost of Ownership (TCO) – is an estimate intended to help producers and consumers determine the direct and indirect costs of a product, line of business, or system.

Quality Assurance (QA) – the maintenance of a desired level of quality in a service or product, especially by means of attention to every stage of the process of delivery or production.

Wireline Network – Referring to a service that connects to the public switched telephone network (PSTN) through a local loop of copper wire or glass fiber that terminates in a fixed location at a customer premises. A wireline service is in contrast to a wireless local loop (WLL) and a wireless service such as cellular.

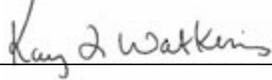
Endorsement and Patronage

Associate Vice President and Chief Information Officer
Christopher R. Markham



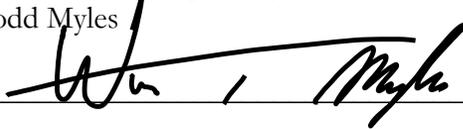
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Managing Director ITS Project Management
Kay Watkins



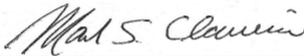
Date 3/16/2018

Director of Enterprise Systems and Infrastructure
Todd Myles



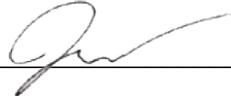
Date 3/19/2018

Director of Enterprise Architecture and Applications
Mark Claverie



Date 3/16/2018

Director of Educational and Emerging Technologies
Joshua Gaul



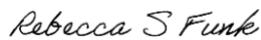
Date 3/19/2018

Integrated Technology Committee (ITC)
Co-Chair Renata Kochut, Ph.D



Date 3/19/2018

Integrated Technology Committee (ITC)
Co-Chair Rebecca (Becky) Funk



Date 3/26/2018