



Naugatuck Valley Community College

INFORMATION TECHNOLOGY

Master Plan

2011 - 2014

September 2012

N VCC MISSION...

Naugatuck Valley Community College offers quality, affordable education and training in response to evolving community needs by providing opportunities to individuals and organizations to develop their potential.

N VCC VISION...

At NVCC, the word “community” is central and our students are considered our most sacred trust and our finest asset. Collaboration within and outside the confines of our immediate surroundings defines our actions and is the base for the rich intellectual, educational, cultural and civic-minded experiences we provide our students.

To view the NVCC Strategic Plan: 2010-2013, please visit nv.edu/strategic



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Mission of Information Technology

The mission of NVCC's Information Technology (IT) department is to provide students, faculty and staff with network services and tools that contribute to their success. Through our services and tools we look to empower our users and enable the use and exploration of technology in education.

Executive Overview

Technology Challenges

The technology challenges facing NVCC are many. They range from funding to training, from being customer-focused to enabling users to do more for themselves. Many of the early projects will be internally focused including changes and corrections to the network infrastructure and organizing NVCC IT to better partner with college departments and constituencies.

Technology Trends

Every year, EDUCAUSE¹ conducts a survey of IT leaders at member institutions to find out what they see as the ten most important IT issues they face. The issues on EDUCAUSE's list will be addressed by the college (via this plan), in collaboration with the Connecticut State Colleges and Universities Board of Regents for Higher Education, Office of Information Technology or by collaboration with other departments at the college and the Board of Regents. These are the results for 2011:

1. Funding
2. Administrative/ERP/Information Systems
3. Teaching and Learning with Technology
4. Security
5. Mobile Technologies
6. Agility, Adaptability, and Responsiveness
7. Governance, Organizational Management, and Leadership
8. Infrastructure/Cyberinfrastructure
9. Disaster Recovery/Business Continuity Planning
10. Strategic Planning

The full report can be found at: www.educause.edu.

Introduction

Overview

The Information Technology Master Plan covers the academic years, 2011 – 2014. Even in this time frame, the rapid pace at which technology changes will make planning a challenge. However, we feel our experience and trends will predict the areas for which new implementations, upgrades and replacements will be essential to maintain our services and collaborations with our customers.

Goals

The goals on the opposite page represent where Information Technology will focus on building and providing network services that are secure, stable and responsive to the learning/teaching culture. Each goal is linked to one or more goal area of the college's Strategic Plan – Success, Contribution, Employment, Community, and Results.

¹EDUCAUSE is a nonprofit association whose mission is to advance higher education by promoting the intelligent use of information technology.



Goals			
Goal	Description	Strategic Goal Area	Projected Outcomes
1	NVCC Information Technology supports teaching and learning with technology.	Success Contribution Results	<ul style="list-style-type: none"> • Four-year computer replacement cycle is maintained • Purposeful technology deployed in classrooms
2	NVCC Information Technology services are easy and simple to access.	Success Contribution Community Results	<ul style="list-style-type: none"> • Satisfaction with services is above 90%
3	NVCC Information Technology assists students to learn to use technology.	Success Contribution Employment	<ul style="list-style-type: none"> • Kiosks use increases 50% • Increase in students helped by remote IT services • Ability to help students learn about technology increases 50%
4	NVCC Information Technology is a partner with departments and communities that use our services.	Success Community	<ul style="list-style-type: none"> • Increase in partnerships • NVCC IT is an agent for change
5	NVCC Information Technology identifies and cultivates alternate funding sources to support information technology initiatives.	Contribution Community Results	<ul style="list-style-type: none"> • Grants applied for increase 100%

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Implementation

Each spring, NVCC IT and the Technology Committee will meet and identify initiatives and activities for the coming year. The WIGs document summarizes the projects and initiatives the department will pursue for the academic year.

Many of the NVCC IT initiatives and activities are centered on the network. It is the medium by which most of our services are delivered. Upgrades and new installations of switches, cabling, AC, backup and recovery and storage are only a few of the capacities addressed. Other initiatives and activities will support other departments. This may involve application development or implementing technology specific to a department such as the transcript document software used by the Records Departments.

The WIGs process is well-understood and addresses those projects on a departmental basis. For a broader need, one that touches multiple departments or disciplines, NVCC IT needs another approach. An NVCC IT initiative for 2011-12 is to create a technical advisory group. This advisory group would help NVCC IT understand and plan to support the need of a broader group. For instance, this advisory group could work with NVCC IT on the needs of teachers in the classroom, be it electronic whiteboards or lecture capture.

This annual plan will be published via the department website and added to the IT Strategic Plan document.

Assessment

NVCC IT will assess progress toward its goals. Throughout the academic year there will be regular updates. The complete assessment will be published via the department website and added to the IT Strategic Plan document. (See Appendix E for Assessment Template.)

Year One: 2011 - 2012

Overview

The strategic initiatives for NVCC IT this year are clustered in the following areas:

- Access to services
- Network infrastructure and server consolidation
- Network assessment recommendations

Access to Services

Most services from NVCC IT are provided via the network. While many of services offered by NVCC IT can be performed remotely without NVCC IT needing to physically go to the user's location, the services provided to students require the student to come to the NVCC IT offices. NVCC IT wants to provide services to students where they can more easily access them.

Network Infrastructure and Server Consolidation

The network servers are old, energy-inefficient and run hotter than newer models. Also, they are mostly dedicated to a single purpose. Newer blade systems² use less space and less electricity, run cooler and provide redundancy. These new servers are the first stage of a larger project that includes network-attached storage (NAS)³ and virtualization⁴ technologies.

Network Assessment Recommendations

In 2007, the System Office contracted with Elert & Associates⁵ to do a network assessment at each Connecticut community college. Released at the end of 2008, their report documented many areas of the network not on par with industry standards and best practices. Many of the projects this year are a continuation of NVCC IT's efforts to bring the network infrastructure into compliance with industry standards and best practices.

²Blade systems comprise two components: blade servers and blade enclosures. Blade servers are stripped down server computers with a modular design optimized to minimize the use of physical space and energy. A blade enclosure, which can hold multiple blade servers, provides services such as power, cooling, networking, various interconnects and management. (www.wikipedia.org)

³NAS is a computer connected to a network that only provides data storage services to other devices on the network. (www.wikipedia.org)

⁴Virtualization, in computing, is the creation of a virtual (rather than actual) version of something, such as a hardware platform, operating system, a storage device or network resources. (www.wikipedia.org)

⁵Elert & Associates provides client-centered, vendor-neutral technology planning and implementation services to help organizations identify and carry out the most effective solutions to their technology needs.



Projects

Each project has with it an outline of the following:

- the IT strategic goals it supports (see Goals for 2011-2014)
- a leader or leaders responsible for the implementation
- resources needed to complete
- project costs, where available
- funding sources, where available

Some projects are designed to be completed within the academic year. Other projects may be the first step in a multi-year endeavor.

Projects					
IT Goals Supported	Project	Leaders	Resources ⁶	Cost	Fund Source
1, 2, 4	Software Inventory	C. Larkin N. Villanueva	• Staff • Software	N/A	N/A
2, 4	Re-engineer software purchasing process	C. Larkin	• Staff	N/A	N/A
1, 2, 3, 4	Helpdesk reorganization including new helpdesk software, dedicated personnel and re-engineered process	C. Larkin N. Villanueva	• Staff • Professional Development • Software	TBD	TBD
1, 2, 4	Server consolidation	B. Arsenault	• Staff • Professional Development • Hardware • Software	\$150K	STI (08)
1, 2, 4	Network storage	B. Arsenault	• Staff • Professional Development • Hardware • Software	\$250K	STI (06/07)
1, 2, 3, 4, 5	Complete and adopt IT Master Plan	C. Larkin	• Personnel	N/A	N/A

⁶A staffing plan is included on pages 8 and 9.

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Projects					
IT Goals Supported	Project	Leaders	Resources ⁶	Cost	Fund Source
1, 2, 3, 4, 5	Form a Technology Advisory Committee	C. Larkin	• Staff	N/A	N/A
1, 4	Ground IT network spaces	B. Arsenault	• Staff • Vendor	\$80K	STI (08)
1, 4	AC/Venting in IT network spaces	B. Arsenault N. Villanueva	• Staff • Vendor	\$100K	STI (11)
1, 3, 4, 5	Install information kiosks	N. Villanueva	• Staff • Professional Development • Hardware • Software	\$10K	STI (08/09)
1, 3, 4, 5	Make IT services more accessible	C. Larkin N. Villanueva	• Staff • Professional Development	\$50K	STI (07/08)
1, 2, 4, 5	Document department policies and procedures	C. Larkin N. Villanueva	• Staff	N/A	N/A

⁶A staffing plan is included on page 8.



Projects					
IT Goals Supported	Project	Leaders	Resources ⁶	Cost	Fund Source
1, 4, 5	Create and maintain a service catalog	C. Larkin N. Villanueva	<ul style="list-style-type: none"> • Staff 	N/A	N/A
1, 2, 3, 4, 5	Deploy new equipment: computers, projectors, printers, smart classrooms, etc.	N. Villanueva	<ul style="list-style-type: none"> • Staff • Professional Development • Hardware • Software • Vendor 	\$410K	Capital (09)
2, 4	Application development for departments	C. Larkin	<ul style="list-style-type: none"> • Staff • Contractor 	TBD	TBD
2, 4	Auto-dialer project	C. Larkin	<ul style="list-style-type: none"> • Staff • Contractor • Software 	TBD	TBD
1, 4	IP security cameras	C. Larkin B. Arsenalult	<ul style="list-style-type: none"> • Staff • Hardware • Vendor 	\$100K	TBD

⁶A staffing plan is included on page 8.

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Year Two: 2012 - 2013

Overview

The activities and initiatives for this academic year have been decided in the summer of 2012. There will be a mix of new projects and projects that carry over from the previous year.

Projects

Each project has been assigned a leader or leaders responsible for its implementation and has been associated with the plan goals it supports (see Goals for 2011-2014).

Some projects are attainable within the year; others may be the first step in a multi-stage endeavor.

Year Three: 2013 - 2014

Overview

The activities and initiatives for this academic year will be decided in the summer of 2013. There will be a mix of new projects and projects that carry over from the previous year.

Projects

Each project has been assigned a leader or leaders responsible for the implementation and has been associated with the plan goals it supports (see Goals for 2011-2014).

Some projects are attainable within the year; others may be the first step in a multi-stage endeavor.

Staffing Plan: 2011 - 2014

The NVCC IT Staffing Plan considers the projects for this year and future years, the strategic goals for NVCC and the NVCC IT department, a comparison⁷ of the IT staffs at comparable Connecticut community colleges and the belief technology will continue to grow in complexity and pervasiveness.

Position Reclassification

It is proposed to reclassify an IT Tech I to an IT Tech II due to the staff person accepting additional responsibilities of the administrative computer support including Banner Security.

Position Reclassification			
Plan Year	Position	Change	NVCC IT Initiative
2011-2012	IT Tech I	Re-classify to an IT Tech II	<ul style="list-style-type: none"> • Access to services • Banner security • New equipment deployment • Community engagement

⁷Charts of comparison are on pages 12 and 13; data is in Appendix B.



Current Positions (filled and open)

The NVCC IT staff possesses a wide range of technical skills. These skills are essential for providing our services to the college community.

Current Staffing Positions (filled and open)		
Position	Authorized	Actual
Educational Assistants	2	2
Student Workers	4	4
Office Automation Specialist ⁸	1	0
IT Tech I ⁹	2	2
IT Tech II ¹⁰	1	1
Programmer / Analyst	1	0
Systems Manager	1	0
Network Manager	1	1
Director of IT	1	1
Associate Dean of IT	1	1

⁸Proposed change for this position to an IT Tech I – see open positions proposal, page. 10.

⁹Proposed reclassification of an IT Tech I to an IT Tech II.

¹⁰See footnote 9.

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Open Positions Proposal

To move forward with projects in support of the College's and IT strategic goals, NVCC IT proposes filling these open positions:

Open Positions Proposal				
Plan Year	Position	Change	Quantity	NVCC IT Initiative
2011-2012	Office Automation Specialist	IT Tech I	1	<ul style="list-style-type: none"> • Server consolidation • Network storage • Implement network assessment recommendations • Network administration • Network security
	Programmer / Analyst	None	1	<ul style="list-style-type: none"> • Access to services • Support decision-making • Application development • Information kiosks
	Systems Manager	None	1	<ul style="list-style-type: none"> • Data and computer security • Access to services • Server administration • Server consolidation • New systems deployment

Programmer/Analyst

An essential part of the NVCC IT team, such a skillset will place us in a position to offer development of applications for the needs of our departments, supporting their drive to support students, faculty and staff. A Programmer/Analyst will work with users to understand their needs and translate those requirements into technical specification for application development. He/She will create the requested application from those specifications. Institutional Research and Web Services may also benefit from this person's skill set.

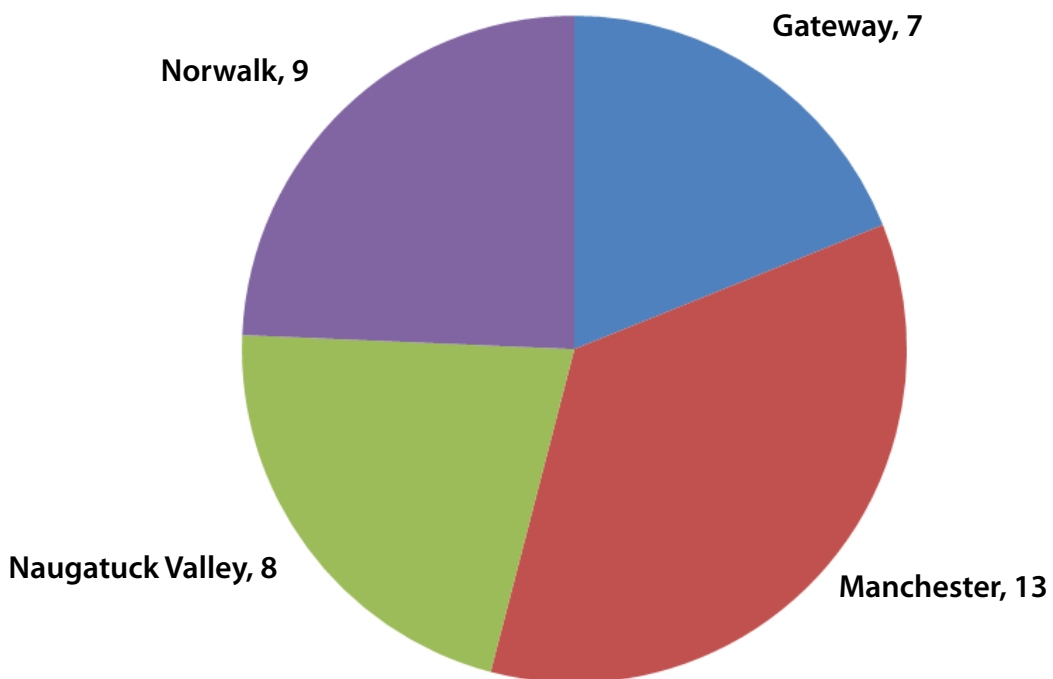


New Positions Proposal

To move forward with projects in support of the College’s and IT strategic goals, NVCC IT proposes the following new positions:

New Positions Proposal				
Plan Year	Position	Change	Quantity	NVCC IT Initiative
2012-2013	IT Tech I	Provide technical support to students, faculty, community in a genius bar-like environment at NVCC	1	<ul style="list-style-type: none"> • Access to services • New equipment deployment • Community engagement • Helpdesk reorganization
2013-2014	IT Tech 1	Provide technical support to students, faculty, community in a genius bar-like environment at NVCC	2	<ul style="list-style-type: none"> • Access to services • New equipment deployment • Community engagement • Helpdesk reorganization
	Helpdesk Coordinator	Provide coordination of NVCC IT support services and improving our efficiency in delivering services	1	<ul style="list-style-type: none"> • Access to services • Software inventory • Software purchasing • Community engagement • New equipment deployment • Helpdesk reorganization

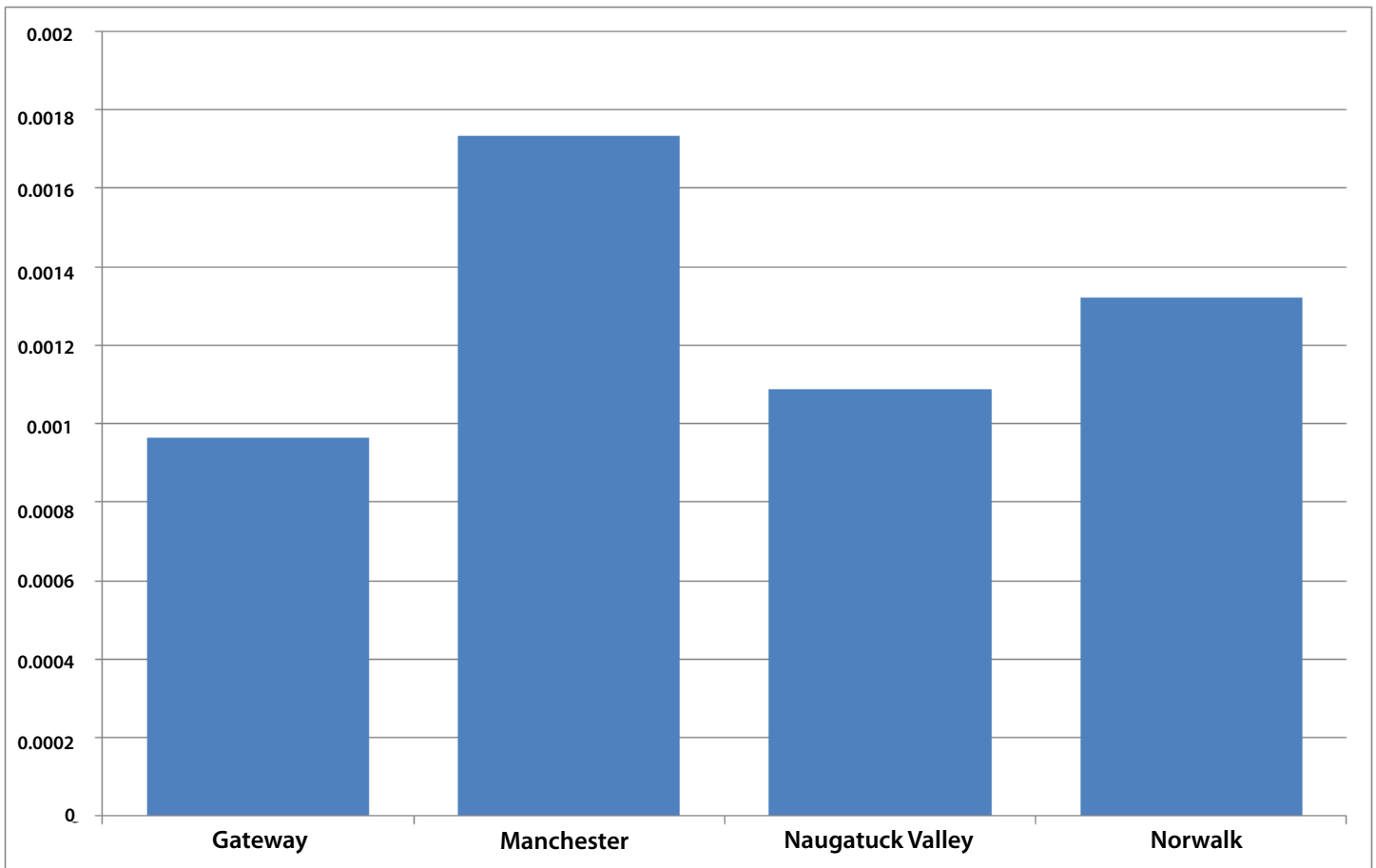
NVCC IT Staff¹¹ Comparison to Comparable CCCs



¹¹Authorized, non-classified positions



IT Staff¹² per Student¹³ at Comparable CCCs

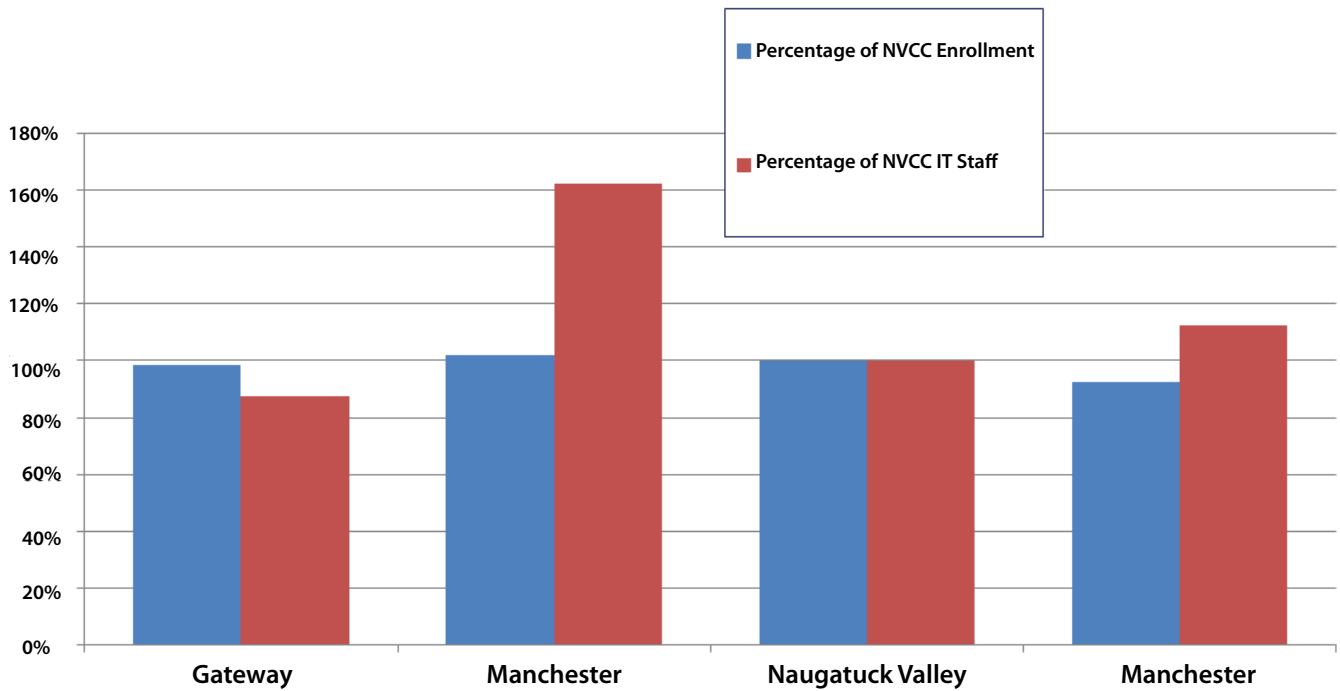


¹²Authorized, non-classified positions

¹³Fall 2011 enrollment

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NVCC IT Staff¹⁴ and Enrollment¹⁵ Comparison to Comparable CCCS



¹⁴Authorized, non-classified positions

¹⁵Fall 2011 enrollment



Technology Committee

The Technology Committee was formed in 2009 and charged by the President to develop the NVCC IT Master Plan. The IT members are permanent members. Members from other areas - faculty, staff and students – serve for two years. Following is the recent membership (information in parentheses indicates representation and month and year of term expiration):

Shea Apland (student, June 2011)

Bruce Arsenault

Henry Cipriano (faculty, June 2011)

Jaime Hammond (staff, June 2011)

Conal Larkin (chair)

Dan Rios (student, June 2011)

Neph Villanueva

Appendix A: Connecticut Community College System Strategic Goals

1. Create an environment in which student success is an expectation.
2. Balance enrollment demands and services with existing resources while maintaining flexibility to manage and improve efficiency.
3. Diversify and strengthen resource development and external funding.

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Appendix B: IT Staff Comparison Data

IT Staff ¹⁶ Breakdown by Position at Comparable CCCs													
College	IT Staff (FT) by College	IT Tech I	IT Tech II	Comp. Lab Spvsr.	Help Desk Coord.	Sys. Mgr.	IT Mgr.	Ntwk. Coord.	Ntwk. Mgr.	Asst. Director	Director	Assoc. Dean	Dean
Gateway	7		4						1	1	1		
Manchester	13		8			1			1	2	1		
Naugatuck Valley	8	2	1		1	1			1		1	1	
Norwalk	9	3	3						1	1	1		
Total by Position	37	5	16	0	1	2	0	0	4	4	4	1	0

¹⁶Authorized, non-classified positions



Fall 2011 Enrollment by College		
College	Heads	FTE
Asnuntuck	1,687	962
Capital	4,512	2,471
Gateway	7,261	4,161
Housatonic	5,975	3,478
Manchester	7,499	4,461
Middlesex	2,876	1,670
Naugatuck Valley	7,361	4,429
Northwestern	1,701	857
Norwalk	6,807	3,991
Three Rivers	5,154	2,947
Tunxis	4,740	2,731
Quinebaug Valley	2,101	1,141

Appendix C: Organizational Performance Factors

The following grid identifies factors to be documented and analyzed. It provides a snapshot of end products or services, helps to evaluate core products and services, and provides insight into core competencies.

Organizational Performance Factors				
	Input	Conditions	Process	Outcomes
Organizational Structure	<p><i>Organizational Strategy/Direction</i></p> <p>mission / vision strategic direction external needs driving force competitive advantage</p>	<p><i>Organization Structural Design</i></p> <p>organizational units / functions decision criteria / authority work units, groups, teams</p>	<p><i>Organizational Systems</i></p> <p>centralization / decentralization consistency of operations flexibility links / interactions</p>	<p><i>Organizational Results</i></p> <p>goal consistency across units measures of success satisfaction of stakeholders</p>
Process / Protocols	<p><i>Demands / Objectives</i></p> <p>time requirements / objectives predictability / cycles workload management expectations</p>	<p><i>Environment / Resources</i></p> <p>equipment, tools, materials, information support personnel / services accessibility to resources physical environment</p>	<p><i>Methods</i></p> <p>allocation of functions policies, processes, protocols, procedures work flow, (redundancy, overlap, gaps)</p>	<p><i>Products / Services</i></p> <p>productivity levels standards, criteria product mix satisfaction of customers</p>
People / Culture	<p><i>Culture</i></p> <p>consistency of values across organization match between stated values and actual behavior</p>	<p><i>Values / Practices</i></p> <p>management / leadership practices climate / team norms ethics / integrity individual behaviors</p>	<p><i>Performance Requirements</i></p> <p>skill, knowledge, experience job aids, references selection of assignments willingness to try</p>	<p><i>Feedback / Motivation</i></p> <p>sources: cues, frequency, timing, form rewards, recognition expectations satisfaction of employees</p>



Appendix D: Template Samples

Service Catalog Entry Template

Information Technology Service Catalog Entry

Service

Area

*Constituent(s): Faculty
Staff
Students*

Status: Draft / Awaiting Approval / Active / Sunset

*Support Tiers: Hardware: Fully Supported
OS: Partially Supported
Application: No Support*

Description

Applicable Policies

Technical Details

Support Caveats

Document History

Date	Comments	Author

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NVCC IT Assessment Template				
Goal	Objectives	Activities	Measurement	Outcomes
1.				
Goal	Objectives	Activities	Measurement	Outcomes
2.				
Goal	Objectives	Activities	Measurement	Outcomes
3.				



Naugatuck Valley Community College
750 Chase Parkway • Waterbury, CT
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