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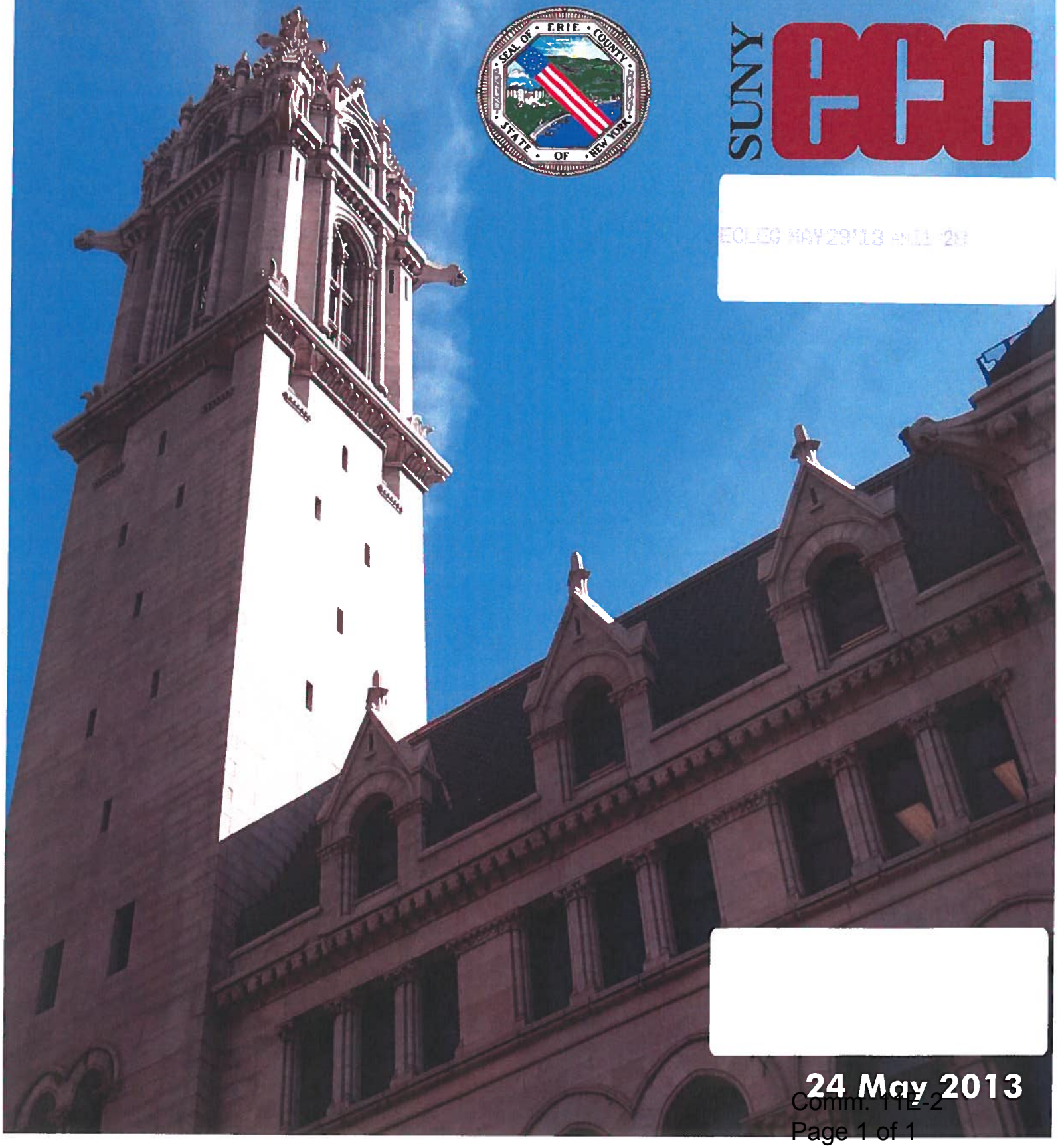
ARCHITECTS AND PLANNERS, P.C

Program Needs Analysis and Space Utilization Assessment

SUNY ECC



24 May 2013

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Executive Summary 1

Overview

Erie Community College (ECC) has been serving the residents of Erie County since the College was first established as the New York State Institute of Applied Arts and Sciences at Buffalo in 1946. Almost seven decades later, ECC's diverse program offerings have helped transform the lives of countless students, helping them achieve their educational and career goals, setting them on paths to success. Given the economic challenges that face New York State and Erie County, the College has never been more important to the health and vitality of the region than it is now.

A paradigm shift has occurred in the way people view two-year colleges. An important component in our government's recovery and growth plan, community colleges are recognized as our best hope to educate and train millions of Americans so they are qualified for the technology-based jobs of the future. Because two-year institutions are expected to do so much with so little, it is vitally important that these colleges utilize their space efficiently, offer academic programs that meet the needs of their business communities, and offer an affordable, accessible, high quality education to all the residents of their regions.

In 2011, ECC, Erie County, and SUNY agreed on a $30,000,000 capital budget to construct a new academic building on the North Campus to support program growth and the alignment of academic programs with regional workforce needs. New York State agreed to provide $15,000,000 and Erie County and ECC each provided $7,500,000. Little information was available to determine the programs that would occupy the new space, the adequacy of existing space, or the actual appropriateness of locating a new building at ECC North Campus. In 2012, the newly-elected Erie County Executive, Mark Poloncarz, the County, and ECC agreed that a detailed space needs analysis was required to examine the space and program needs of the College as a whole. The cost of the analysis was shared by ECC and Erie County.

During 2012, the Western New York Regional Economic Development Council (REDC) was developing the Buffalo Billion Investment Development Plan. As the Buffalo Billion plan took shape, collaboration between Erie

Figure 1.1 - Iconic Buffalo at City Campus

County, ECC, and the Buffalo Billion plan stakeholders revealed the important role ECC will play in the region's economic advancement. Improved and expanded programs at ECC will be instrumental in addressing the skills needs of regional employers. The analysis revealed that ECC does not have the quality or quantity of space required to accommodate improved and expanded programs.

In September 2012, Erie County and ECC retained JMZ Architects and Planners, P.C. to conduct a study titled, "Program Needs Analysis and Space Utilization Assessment." This report documents JMZ's independent analysis of the College's space needs and provides recommendations for ways the College can better align its academic programs with the regional workforce needs of the Buffalo Niagara region.

The Important Issues

JMZ worked closely with the project Steering Committee throughout the course of the study. At the onset, the Steering Committee presented the consultants with six key questions to be addressed. Over the course of the study, the list grew to include twelve questions that target specific issues:

- Regional Workforce Needs
- Growing Industry sectors
- ECC enrollment and demographics
- Alignment of ECC programs with workforce advancement needs and employment opportunities
- The quality and size of ECC academic and technical spaces
- Efficient utilization of existing ECC space
- Strategic expansion of ECC programs and spaces
- Targeted consolidation and relocation of selected ECC programs for effectiveness and efficiency

This report includes narrative that directly addresses each issue.

Alignment with the Buffalo Billion Investment Development Plan

The Western New York REDC published the Buffalo Billion Investment Development Plan in February 2013. JMZ's planners worked collaboratively with the Buffalo Billion plan consultants and regional stakeholders.

- JMZ's planners, ECC, and Erie County participated in workshops and private consultation meetings with the Western New York REDC and the Buffalo Billion Investment Development Plan consultants and stakeholders throughout the course of the study.

- Using data from a variety of sources, including the U.S. Census Bureau, the U.S. and New York State Departments of Labor, and the Integrated Postsecondary Education Data System, JMZ's research consistently verified the findings reported in the Buffalo Billion plan and in other publications about the Buffalo Niagara region.

- The recommendations included in this report are in alignment with the Buffalo Billion Investment Development Plan. Implementation of the ECC Program Needs Analysis and Space Utilization Assessment recommendations will position ECC to perform its valuable role in carrying out the regional workforce advancement strategies that are part of the Buffalo Billion Investment Development Plan.

Major Findings

- **More graduates in science, technology, engineering and math (STEM) and technical programs will be needed.** Like many other U.S. cities, the Buffalo Niagara region has a skills gap. The mismatch between the skills sought by employers and the skills of potential employees is a key hurdle to be solved. Currently, most degrees awarded to students in the Buffalo Niagara region are in liberal arts, business, education, and health.

- **STEM education extends opportunity to Buffalo Niagara workers at all levels.** ECC has a role in preparing all workers for jobs and careers in STEM-related industries. There will be demand for professionals with advanced degrees, workers with advanced training, and skilled labor with two-year degrees or certificates.

- **ECC must be more competitive to attract the region's potential students.** The Buffalo Niagara region will have fewer college-age people than its peer regions through the 2020s and 2030s. In recent years, ECC enrollment has decreased. Students are leaving Erie County to study elsewhere. Geography alone is not the deciding factor for students attending college. Programs offered, modern and attractive campus facilities, transportation, instruction delivery method, and schedule are important factors in students' college choices.

- **Industries such as manufacturing, trade and transportation, and utilities are expected to lose 20 percent of their skilled labor to retirement as the Baby Boom generation ages.** Jobs created in these sectors will be augmented by additional positions that will be created as workers retire.

- **ECC has existing programs in place that correlate with projected growth sectors of the economy.** Independent reports (such as the Buffalo Billion Investment Development Plan) and data from the U.S. Bureau of Labor Statistics and the U.S. Census show that three industry sectors are poised for growth in the Buffalo Niagara region: Advanced Manufacturing, Health and Life Science, and Tourism. ECC City Campus programs prepare students to enter the workforce directly; ECC North Campus and ECC South Campus programs prepare students to transfer to four-year colleges and universities.

- **Advanced Manufacturing and Health and Life Science careers require STEM-focused academic programs.**

- **ECC does not have the type or amount of space to accommodate STEM and advanced technical programs.** Existing buildings, particularly at North Campus, are worn and outdated, and the spaces are not scalable to accommodate new technology and pedagogies. New construction is recommended for new STEM and advanced technical program spaces.
- **ECC's current science and nursing labs are sorely in need of renovation and expansion.** They will need modernization to accommodate new programs (such as bio-manufacturing) and teaching facilities (such as Center for Interdisciplinary Practice and Simulation, or CIPS, spaces).

Major Recommendations

Construct a new STEM building at ECC North Campus. The $30,000,000 building would be designed for future expansion, and would house new specialized class labs spaces for science related programs such as:

- Anatomy and Physiology
- Biology
- Biomanufacturing
- Chemistry
- Engineering Science
- Medical Lab Technology
- Medical Assisting
- Nursing
- Physics
- Respiratory Care

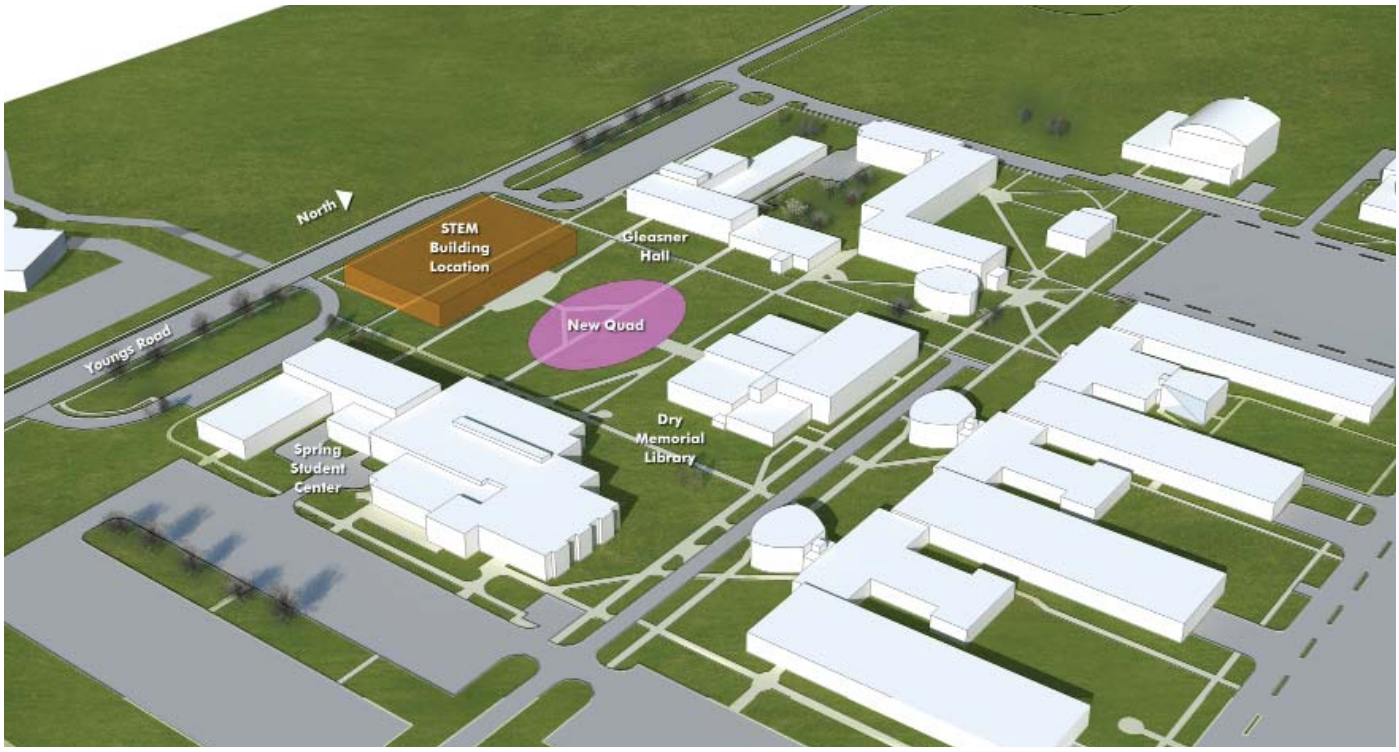
Graduates of these programs are likely to continue their studies at a four-year institution. North Campus is the best location for the new STEM building for a variety of reasons, both strategic and practical:

- STEM complements existing programs at North Campus.
- There is land available right now on ECC North Campus. New construction at another ECC location, such as the City Campus, would require land acquisition as well as parking facilities. Information on recent downtown Buffalo land sales indicates that property costs could exceed $2 million. Adding such non-educational costs to the project would divert resources from the academic spaces proposed for the building.
- Many students from Erie County leave the county for other colleges in the region. Prospective students view ECC North Campus to be more like a high school than a college. The new STEM building would advance ECC North Campus as a state of the art higher education institution.
- ECC North Campus has the largest enrollment of the three ECC campuses, and students travel to ECC North Campus from all parts

of Erie County. Improvements to ECC North Campus will improve students' college experience and may attract additional students who might have chosen to attend other nearby community colleges, such as Niagara County Community College.

- To support programs at all three ECC campuses, the College's circulator transport system should be made more efficient. Travel time must be decreased, and frequency must be increased.

Figure 1.2 - Proposed Location of STEM Building



Partner in the development of a Regional Workforce Advancement Center in the City of Buffalo. ECC, in partnership with other area public and private sector organizations and educational institutions, should be prepared to facilitate a cooperative, collaborative Regional Workforce Advancement Center in the City of Buffalo. The Center will bring under one roof many of the College's two-year degree and certificate programs that lead directly to high demand jobs. Examples include Building Management and Maintenance and Energy Utility Technology programs. Recommended new programs to be offered by ECC through the Regional Workforce Advancement Center include Welding Technology and Supply Chain Management/Logistics, in addition to other regionally focused programs. Through collaboration and communication with the Buffalo Niagara Skills Partnership as a "skills broker," the Regional Workforce Advancement Center will help to expand education and job opportunities to displaced workers, the un- and under-employed, and underrepresented populations.

Build on the tradition of Liberal Arts at ECC South Campus.
For students planning to transfer to a four-year institution, ECC South Campus is an excellent place to start. A strong foundation of liberal arts and general studies prepares transfer students for the rigor of university programs. In addition, ECC South Campus is the home of the Sustainability Training Center, which trains students for jobs in energy efficiency and green technology.

Communication and Media Arts, Visual Communication Technology, and Web Page Design are existing ECC programs that embrace the collaborative nature of the Liberal Arts and Sciences. These programs on ECC South Campus will make ECC South Campus a Communications Center of Excellence. Improvements to ECC South Campus would focus on creating collaboration spaces and updated common areas to enhance the collegiate environment.

Summary

For nearly seven decades, ECC has provided Erie County residents with affordable higher education and training. A new STEM Building on the North Campus and a Regional Workforce Advancement Center in the City of Buffalo are necessary to provide ECC with the facilities it needs to fulfill its mission. These investments in education and training directly support the efforts of the public and private regional partners to advance targeted industry sectors that will lead to the re-birth of the Buffalo Niagara region.

Regional Overview 2

Economic History

The City of Buffalo was originally surveyed for settlement in 1804. The village grew slowly, and was burned substantially during the war of 1812. Prosperity came to the City when efforts to improve its harbor were successful. At that time, Buffalo was chosen as the western terminus for the Erie Canal. In 1822, Buffalo was incorporated and was on its way to becoming a center of business and industry in Western New York. During this time, Buffalo was the largest grain handling port in the world.[1]

Location remains one of Buffalo's assets. Access to the Great Lakes, the St. Lawrence Seaway, rail transportation, interstate highway transportation, and a modern airport make Buffalo an excellent location for business. Nearby Canadian cities are industrial and commercial partners, making Buffalo Niagara an international region with markets that extend beyond American borders. The region continues to benefit from its position as a major transportation hub.

During World War I, established labor and supply sources in Europe were unavailable. The resulting labor shortage and manufacturing boom created opportunities for women, immigrants, and African Americans to enter the workforce in U.S. industrial cities like Buffalo. Following the war, the boom continued as automobile, aerospace, chemical, and steel companies continued to thrive in the Buffalo Niagara region.[2]

The region has a long history of excellent educational institutions. The first public school in New York opened in Buffalo in 1839.[3] Today the University of Buffalo (UB), founded in 1846, is one of 21 colleges and universities in the Western New York Consortium of Higher Education, which includes Erie Community College (ECC).

The Buffalo Niagara region has a long history of excellent educational institutions.

Erie Community College is one of 21 colleges and universities in the WNY Consortium of Higher Education.

1 Priebe, H.J. (2002). Beginnings – The Village of Buffalo – 1801 to 1832. Retrieved from http://www.history.buffalonet.org

2 LaChiusa, C. (n.d.). History of Buffalo, New York. Retrieved from http://buffaloah.com/h/histindex.html#Anchor

3 Priebe, H.J. (2002). The City of Buffalo – 1832 to 1840. Retrieved from http://www.history.buffalonet.org

Industrial success and established educational institutions helped Buffalo become a center of culture and commerce. The region is well known for its beautiful parks designed by Frederick Law Olmsted and buildings designed by famous architects such as Frank Lloyd Wright, Louis Sullivan, E.B. Green, and H.H. Richardson.[4] Over 75 buildings and sites in the region are on the National Register of Historic Places. World-class museums, such as the Albright-Knox Art Gallery and the Burchfield Penney Art Center, are complemented by arts districts like Allentown and the Tri-Main Center. Niagara Falls, an international tourist destination, is surrounded by historical, cultural, and recreational resources.

Despite all of these positive features, by the time Buffalo celebrated its 150th anniversary in 1982, the City and the region were suffering from many years of industrial decline. Thousands of people were laid off at many of the region's major employers, including General Motors, Ford, and Bethlehem Steel.[5] The price paid by the region's citizens went beyond just job losses; many still live below the poverty line over forty years after the start of the industrial downturn. Buffalo is among the top ten most segregated cities in the nation.

The region's strong foundation of industrial infrastructure, educational excellence, and cultural richness sets the stage for the economic promise that the Buffalo Niagara region shows today.

Although industry declined, the region remained home to many innovators. In the midst of the industrial exodus, Herbert Hauptman was awarded the Nobel Prize in chemistry for devising mathematical methods to determine crystal structure. This advance pinpointed causes of genetic illnesses.[6] The Hauptman Woodward Medical Research Institute, founded in 1956, is one of the many of science, research, and technology leaders in the region. In the 1990s, sports, banking, and hospitals continued to grow, which helped sustain the region.

The region's strong foundation of industrial infrastructure, educational excellence, and cultural richness sets the stage for the economic promise that the Buffalo Niagara region shows today. Citizens and businesses that have kept faith in the region are being rewarded by growth in industry and investment. New businesses and the *Buffalo Billion Investment Development Plan*, a New York State initiative to rebuild the region on technology and innovation, are making news nationwide. The Buffalo Niagara Metro Statistical Area (MSA), defined as Erie County and Niagara County, ranks seventh among *Area Development Magazine's* top 20 Mid-Atlantic regions. The study ranks cities on business growth opportunities and quality of life factors.[7]

4 Buffalo Niagara Convention and Visitors Bureau. (n.d.) Buffalo Architecture. Retrieved from www.visitbuffaloniagara.com.

5 LaChiusa, C. (n.d.). History of Buffalo, New York. Retrieved from http://buffaloah.com/h/histindex.html#Anchor

6 LaChiusa, C. (n.d.). History of Buffalo, New York. Retrieved from http://buffaloah.com/h/histindex.html#Anchor

7 (N.A.). (Summer 2012).100 Leading Locations for 2012, Which MSAs Rank Highest for Economic & Job Growth? Area Development Magazine, Executive Survey Issue. Retrieved from http://www.areadevelopment.com/article_pdf/Leading-Locations-2012-full-report.pdf

A number of opportunities have converged and, taken as a whole, they provide the Buffalo Niagara region with a unique opportunity to move toward a brighter future through investments in education, the workforce, and business and industry.

- The *Buffalo Billion Investment Development Plan* is a recently unveiled pledge from the State of New York to contribute $1 billion in State funds to attract complementary private investment at a 5:1 leverage ratio to create jobs and spur sustainable, innovative economic activity. It identifies six specific strategies and initiatives that are tailored to optimize Buffalo Niagara's assets and opportunities. The Plan, designed to help set the region on a path to a thriving economy, is grounded in a deep understanding of where the region is today and where it can go in the future.
- Workforce development and education programs such as Say Yes! and Dream it! Do it! will help the region's youth in a variety of ways, such as providing training, emotional support, college tuition, and job opportunities.
- The New York Department of Labor's One-Stop Centers are in place to help citizens find the programs they require to prepare for and find jobs.
- Funding support from the Western New York Regional Economic Development Councils (WNY REDC) and industry partners may soon be available to do even more to help educational institutions align workforce training with targeted industry advancement.
- As high tech companies - such as Albany Molecular Research, Inc. (AMRI) - move into the region, workforce preparation and employee skills training will be essential. AMRI plans to start with 15 research jobs in Buffalo in 2013, then add 75 jobs over the next five years. Private investments in the Buffalo Niagara Medical Campus from equipment suppliers and other drug companies, including AMRI, are expected to total $200 million.[8]
- ECC, Erie County, and SUNY have agreed to construct a new $30 million academic building on one of ECC's campuses to support program growth and the alignment of academic programs with regional workforce needs.

Therefore, ECC is well positioned to contribute to the region's growth.

8 D'Errico, R.A. (January 7, 2013). AMRI relocating jobs from Washington lab to Albany, Buffalo. The Business Review. Retrieved from http://www.bizjournals.com/albany/news/2013/01/07/amri-relocating-jobs-from-washington.html

Profile of the Buffalo Niagara MSA Labor Market

Between 2001 and 2009, while the region's overall population declined, the area's workforce grew by 14,500 workers.[9] In fact, the Buffalo Niagara MSA, which encompasses Erie and Niagara Counties, was one of only two large metropolitan areas in the Country to see employment increase between March 2009 and March 2010. As shown in Figure 2.1, ECC's three campuses are located in the geographic center of the Buffalo Niagara MSA.

Although the number of traditional manufacturing jobs declined in the past decade, especially in the automotive sector, the number of advanced machine manufacturing jobs grew. In addition, the decline in traditional manufacturing jobs was offset by job growth in financial, health, education,

Figure 2.1 – The Buffalo Niagara Metro Statistical Area (MSA)

9 Buffalo Niagara Enterprise and the UB Regional Institute. (2011). Buffalo Niagara Labor Market Assessment 2011: Who's Your Economy.

and professional services sectors of the economy. Currently, the health services and professional and business services sectors drive the region's economy, providing one out of every four jobs. Manufacturing is an important component of the Buffalo Niagara economy, representing ten percent of all jobs in the region. However, manufacturing is changing as knowledge-based jobs shift production from traditional factories to high tech environments that often look more like laboratories. In fact, knowledge-based jobs are increasing steadily in the region and the nation.

Over $500 million has been invested in the region since 1995 to increase technological capacities in the automotive, aerospace and defense, industrial chemicals, advanced plastics and polymers, and food processing industries. Potential future investments through the WNY REDC and the *Buffalo Billion Investment Development Plan*, along with commitments from local businesses and industry to grow their companies, bode well for the economic future of the Buffalo Niagara region.

There are currently not enough local jobs for the number of people in the workforce.[10] Therefore, for the region to prosper, business and industry must grow to offer more job opportunities. For every person retiring in the region, there could be as many as three persons looking to enter the region's workforce. Approximately 4,500 individuals with a high school diploma or less, plus roughly 26,000 local college graduates could potentially be entering the workforce each year over the next ten years, while only about 10,000 people will be retiring annually during that same time period.

However, the following industries, which employ a large number of older workers, are expected to actually face worker shortages, as they are expected to shed about one-fifth of their workforce in the coming years through retirement.

- Manufacturing
- Trade and Transportation
- Utilities

Already, about one in five hard-to-fill jobs (as reported by employers), is in the skilled trades, including machinists, sheet metal workers, and molding technicians. Utilities are anticipating a shortage of workers, such as transmission, generator, and power shed technicians. Education and health services represent the largest proportion of older workers currently in the workforce.

Definitions
(Bureau of Labor Statistics Glossary)

Labor force, or Workforce
The workforce includes all persons classified as employed or unemployed in accordance with the definitions below. In this report, workforce data refer to persons aged 25-64.

Unemployed persons
Persons who had no employment during the reference week, were available for work, and had made *specific efforts to find employment* during the 4-week period ending with the reference week.

Employed persons
Persons in the civilian non-institutional population who, during the reference week, did any work at all as paid employees. Each employed person is counted only once, even if he or she holds more than one job.
Non-institutional means people who are not in an institution (criminal, mental, or other type) or who are not active duty military personnel.

10 New York Department of Labor (NYSDOL). Current Employment by Industry, Data for Buffalo Niagara Falls, NY Metropolitan Statistical Area. Retrieved from http://labor.ny.gov/stats/cesemp.asp. Nonfarm jobs in January 2011: 530,300. January 2011 workforce was estimated to be 578,888 (U.S. Census 2011 5-year Estimate.) Nonfarm jobs reported by NYSDOL for January 2013 were 537,300. There is no updated estimate from U.S. Census for January 2013 workforce.

As shown in Figure 2.2, health organization also lead the list of the region's largest employers. The top 20 regional employers (by number of full-time employees) are identified below. These companies supply 13.1 percent of the non-farm jobs in the Buffalo Niagara MSA.

Figure 2.2 - The Twenty Largest Employers in the Region[11]

WNY Largest Private Sector Employers - 2013

COMPANY	INDUSTRY	FULL-TIME EMPLOYEES
Kaleida Health	*Health care system*	**8,030**
Catholic Health System	*Health care system*	**6,709**
Employer Services Corp.	*Employment-related services*	**6,559**
Tops Markets LLC	*Supermarket retailer*	**5,058**
Wegmans Food Markets Inc.	*Supermarket retailer*	**5,000**
M&T Bank	*Commercial Bank*	**4,987**
Catholic Diocese of Buffalo	*Parishes, schools, and institutions*	**3,500**
Roswell Park Cancer Institute	*Hospital*	**3,224**
HSBC Bank USA N.A.	*Commercial Bank*	**3,000**
Moog Inc.	*Manufacturer of precision-control components and defense systems*	**2,950**
Seneca Gaming Corp.	*Entertainment*	**2,881**
People Inc.	*Services to people with developmental disabilities*	**2,536**
First Niagara Bank	*Commercial Bank*	**2,500**
Geico Direct	*Insurance Services*	**2,286**
Bank of America	*Commercial Bank*	**2,000**
Dresser-Rand Co.	*Manufacturers of compressors, engines and steam turbines*	**2,000**
Elderwood Senior Care	*Skilled nursing facility*	**1,926**
The Resource Center	*Services to people with developmental disabilities*	**1,806**
Delaware North Cos.	*Hospitality and food service*	**1,734**
The Alcott HR Group	*HR service provider*	**1,650**

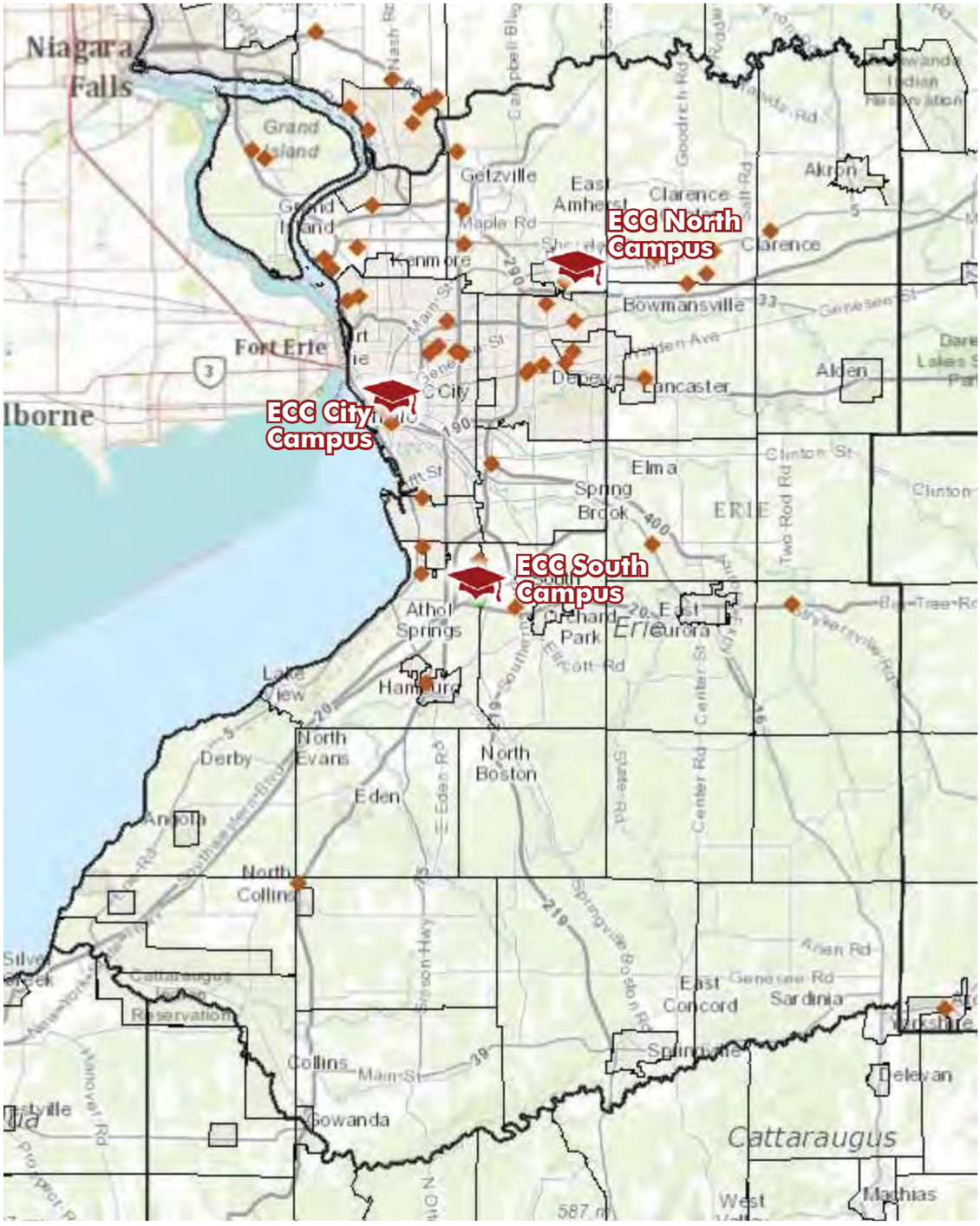
The maps in Figures 2.3 and 2.4 identify the location of the largest employers in the Buffalo Niagara region in the Manufacturing and Health Care and Medical Technology sectors, respectively.

11 WNY Largest Private Sector Employers – 2013. (2013). [Table of employers and number of employees]. Buffalo Niagara Enterprise. Retrieved from http://www.buffaloniagara.org/Doing_Business/TopBusinesses.

Manufacturing Employers

The largest local manufacturing companies are clustered around Buffalo in the northern half of Erie County. Included in this category are Moog, Dresser-Rand, Cummins, GM Powertrain, Good-Year Dunlop, Ford, Saint-Gobain, Cooper Turbocompressor, Derrick Corp., Keller Technology, Kellner Brothers, PRZ Technologies, Delphi-Harrison Thermal Systems, Northrop Grumman, Aero Instruments, Ampac-ISP, Lockheed Martin, DRS Technologies, Presolite, and MultiSorb.

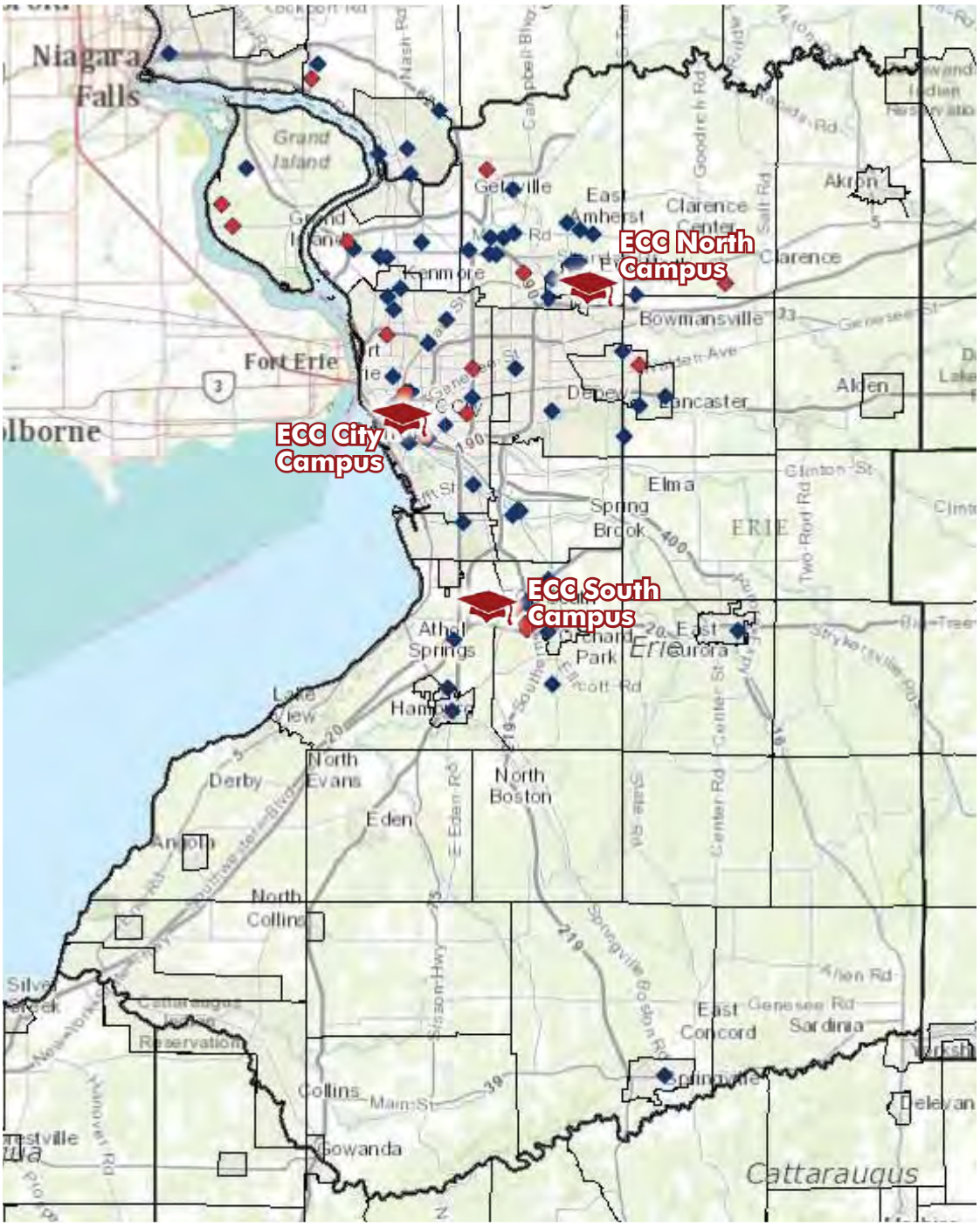
Figure 2.3



Health Care and Medical Technology Employers

There are clusters of health care and medical technology companies near both the North and City Campuses. Employers in this category include, but are not limited to Kalieda Health System, Laboratory Patient Service Centers, Mercy Care Centers, Mercy Hospital, ElderWood Skilled Nursing, ElderWood Assisted Living, ElderWood Independent Living, Accumed Technologies, Harmac Medical Products, Greatbatch, Jacobs Neurological Institute, Cobham Life Support, and Trinity Biotech USA.

Figure 2.4

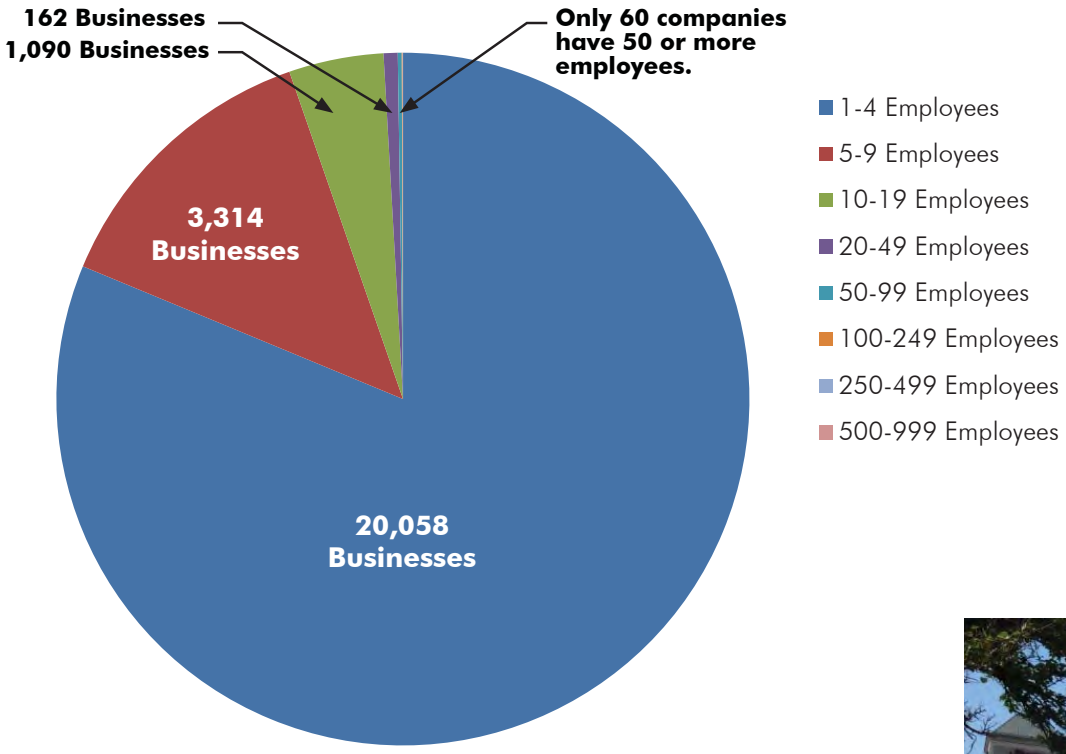


While 20 percent of jobs in the region (109,802) are supplied by the 64 largest employers (those employing 420 people or more), the other 80 percent of regional jobs come from small and mid-sized firms.

Small businesses will play a large part in economic rebirth since they account for nine out of ten companies in the region.[12] Figure 2.5 shows that roughly 80 percent of the 25,139 businesses in the Buffalo MSA employ four or fewer people. Only 60 companies number more than 50 employees.

For small businesses, expenses such as health care and employee training can be challenging. Those that have survived the recession, however, are well positioned to grow during a recovery.

Figure 2.5 - Business Sizes in the Buffalo Niagara MSA[13]



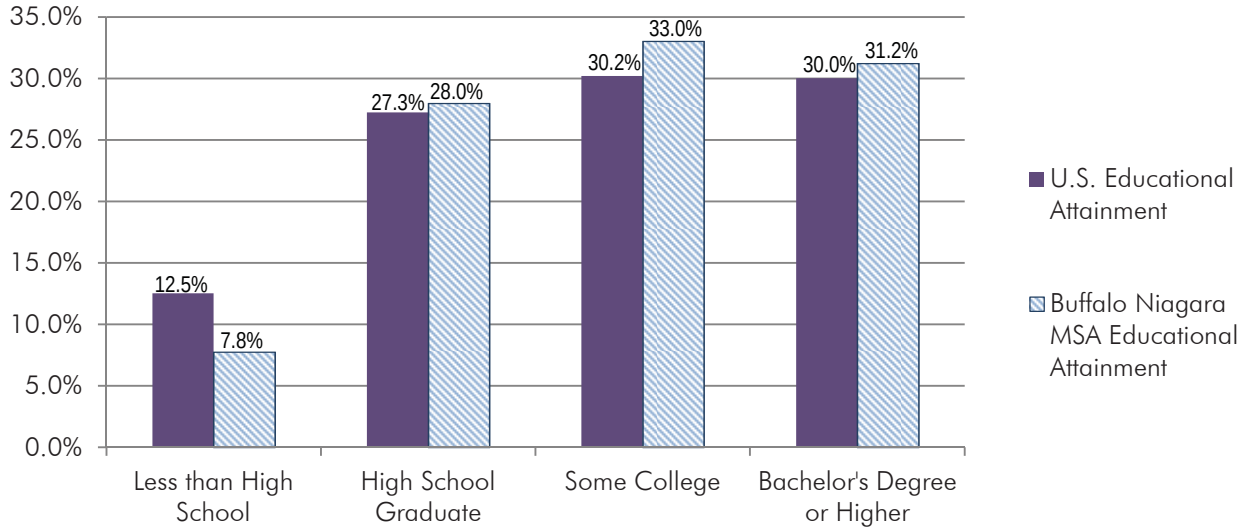
Educational Attainment in the Region

Residents of the Buffalo Niagara MSA aged 25-64 are more educated than 25-64 year-olds in the nation. In the U.S., 60.2 percent of the population has some postsecondary education compared to 64.2 percent in the Buffalo Niagara MSA (Figure 2.6).[14]

Small businesses on Buffalo's Chippewa Strip. Image retrieved from http://www.cyburbia.org. Image taken by Cyburbia contributor "Dan" in June, 2009.

12 Buffalo Niagara Enterprise and the UB Regional Institute (2011). Buffalo Niagara Labor Market Assessment 2011: Who's Your Economy.
13 ReferenceUSA. (2013) Retrieved from User Account on http://refusa.sals.edu/gle/
14 U.S. Census Bureau. (2010). Buffalo Niagara MSA and U.S.. Retrieved from http://fact-finder2.census.gov

Figure 2.6 - Educational Attainment, USA and Buffalo MSA Population Aged 25-64



Figures 2.7-2.10 show the Buffalo Niagara MSA labor market in terms of educational attainment and workforce status of the population aged 25-64.[15]

Figure 2.7 - Less than High School (46,036 people)

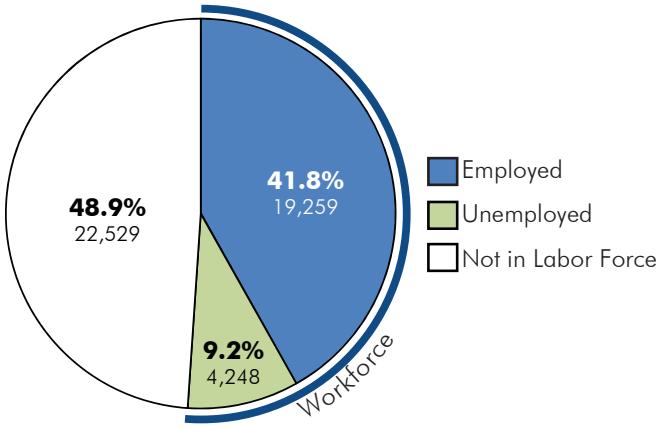


Figure 2.8 - High School Graduates (166,163 people)

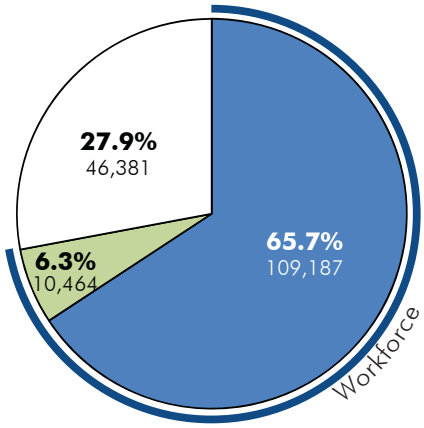


Figure 2.9 - Some College (196,227 people)

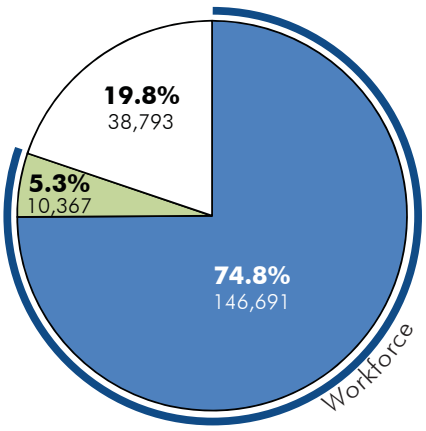
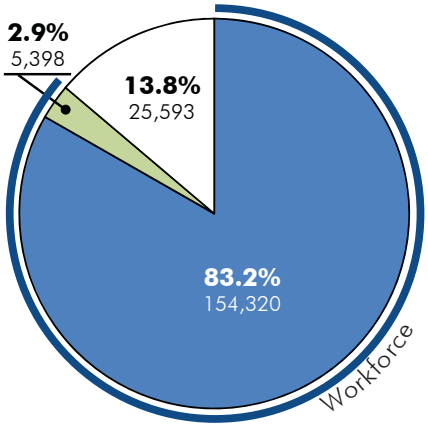


Figure 2.10 - Bachelor's Degree or Higher (185,459 people)



15 ibid.

The unemployment rate of people who have completed some college or have a degree is less than or close to their share of the population. This indicates that having some college education is a benefit for job seekers.

In addition to postsecondary education attainment, a student's program of study is also important. At present, over half of all college degrees granted by Buffalo Niagara colleges and universities are in four fields of study:

- Business
- Education
- Health Sciences
- Liberal Arts

The region will need workers who are well educated in the fields of science, technology, engineering, and math (STEM) to remain competitive in the knowledge-based economy and the global marketplace.

Workforce Training

The most significant problem facing the region's employers, now and in the coming years, will likely be the mismatch between the skills of the available workforce and employers' job skill requirements.[16] While many Buffalo MSA residents are well-educated, a significant challenge involves keeping the workforce up-to-date in the skills most sought after by local industry. Low-skilled and entry level workers often need specific training in soft skills required in the work environment, such as time management, basic computer use, and inter-personal communication skills. Less-educated members of the Buffalo MSA workforce suffer a higher rate of unemployment than more educated workers, which further emphasizes the need for targeted training.

The Buffalo Niagara region is fortunate to have the 21 higher education institutions in the Western New York Consortium of Higher Education (see Figure 2.12), along with proactive non-profits and industry partners such as those listed below, working to advance economic prosperity and workforce training:

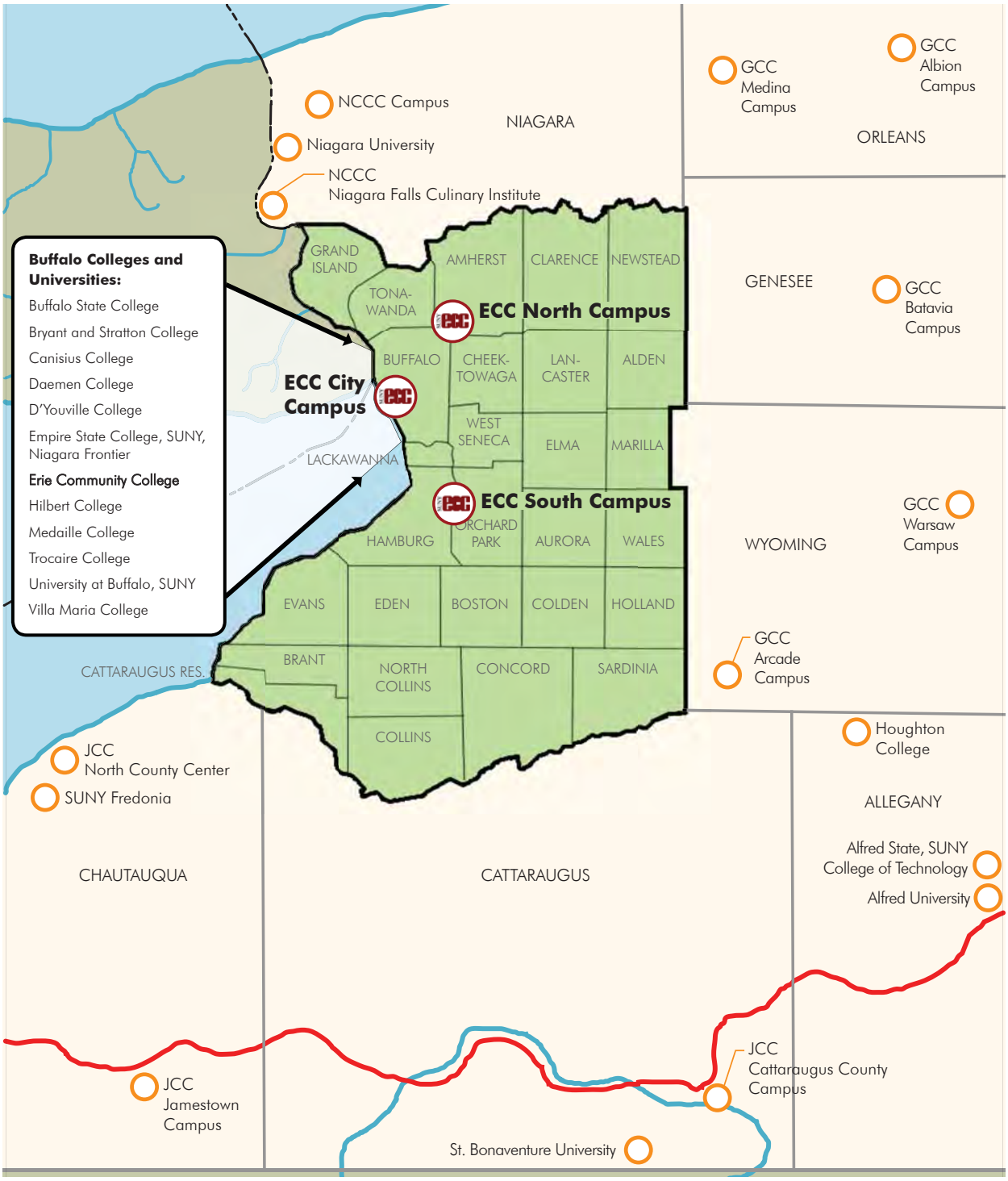
- BOCES
- Buffalo and Erie County Workforce Development Consortium, Inc.
- Buffalo Employment and Training Center
- Buffalo Urban League
- Catholic Charities
- Charter School for Applied Technologies
- Community Action Organization of Erie County, Inc.
- Educational Opportunity Center
- Everywoman Opportunity Center
- Job Corps
- Liberty Partnerships Programs
- Local Chambers of Commerce
- Metalworking Institute of Western New York, Inc.

16 Buffalo Niagara Enterprise and the UB Regional Institute (2011). Buffalo Niagara Labor Market Assessment 2011: Who's Your Economy.

- New York State Center of Excellence in Bioinformatics and Life Sciences
- New York State Department of Labor One-Stop Career Centers
- New York State Education Department Vocational Services for Individuals with Disabilities
- New York State Science and Technology Entry Program
- Salvation Army
- Supportive Services Corporation
- Veterans Service Agency
- Western New York Area Labor Federation
- Workforce Development Institute

The challenge will be to coordinate the efforts of these various entities to make it easier for those seeking employment, retraining, or a new career to find the right programs and support they need to succeed.

Figure 2.12 – Higher Education Institutions in Western New York



Erie Community College

Established in 1946, Erie Community College (ECC) offers comprehensive, affordable, and accessible educational opportunities to a diverse community. It is the fourth largest State University of New York (SUNY) community college and is accredited by the Middle States Commission on Higher Education. ECC maintains three distinct campuses under a unified governance structure with a common mission and vision: to ensure residents throughout Erie County have access to a college education.

The ECC North Campus, located in Williamsville since 1960, is the oldest and the largest of the three campuses. The North Campus sits on 120 acres, offering classes to students in six buildings, totaling approximately 500,000 square feet. The campus serves approximately 50 percent of ECC's students.

ECC City Campus is located in the Old Post Office, an architectural landmark in downtown Buffalo.

In 1982, the City Campus moved to its present site at the Old Post Office, a 225,000 square foot architectural landmark built in 1901 in downtown Buffalo. In 1993, as part of the World University Games, New York State and Erie County built a 125,000 square foot athletic center that was turned over to ECC after completion of the games. The newest City Campus facility, located nearby at 45 Oak Street, opened in January 2008. The 53,000 square foot building consists of 20 classrooms and labs, faculty offices, and administrative offices. The City Campus serves approximately 25 percent of ECC's students.

The South Campus opened in the fall of 1974, providing accessibility for those in the southern parts of the County. Located in Orchard Park and Hamburg, the campus consists of six inter-connected buildings totaling approximately 390,000 square feet. A seventh building was partially converted for use by the College's Information Technology Department and the County Department of Motor Vehicles. A new Pressure House was recently constructed at the Sustainability Training Center, located adjacent to the South Campus Alumni House. The Pressure House will function as a training center where students in building and construction-related programs will learn about home weatherization, solar, geothermal, and wind technologies. In addition, the Alumni House is being converted to a green LEED®[17] facility that will also be used as a teaching venue. Approximately 25 percent of ECC students attend the South Campus.[18]

The Vehicle Technology Training Center, located at 5885 Big Tree Road in Orchard Park, serves the Automotive Technology Program, MOPAR/CAP Apprenticeship Program, and the Ford Motor Company ASSET Program. The facility allows for the development of curriculum designed to prepare graduates to meet the challenges of the automotive industry. College and government support, a state-of-the-art facility, and partnerships with Ford and General Motors allow the College to successfully meet the training needs of the local workforce.

17 LEED stands for Leadership in Energy and Environmental Design. It is a rating system to measure the success of sustainable design. LEED was devised by the U.S. Green Building Council and it is monitored by the Green Building Certification Institute.

18 Enrollment at campus data: F2012 Student List provided by ECC

Regional Workforce Needs 3

Introduction

What are the Workforce needs of the region?

The Buffalo Niagara region has largely transitioned into a knowledge-based economy, along with the rest of the U.S. In an agricultural economy, land is the key resource. In an industrial economy, labor and natural resources, such as iron ore and coal, are the primary resources. In a knowledge-based economy knowledge is the key resource.

A knowledge-based economy is so fundamentally different from the resource-based system of the last century that conventional education must be reexamined. The knowledge-based workforce must have the ability to access and process large amounts of data, think critically, communicate well, and continue to learn new skills on the job as technology changes.

The shift to a knowledge economy is also demonstrated by the change in the meaning of the word "labor" as it applies to producing goods. As innovative production methods transform the workplace, physical labor represents less of the value of a product. In its place, specialized product development, design, marketing, and back office labor add value. Educational programs that successfully meet the needs of this new economy will foster skills in critical thinking, data analysis, and team building.

Educational programs that successfully meet the needs of this new economy will foster skills in critical thinking, data analysis, and team building.

The Workforce

In addition to the changing workforce needs associated with the shift to a knowledge-based economy, the Buffalo Niagara region must also address the same workforce challenges that many other American cities will face in upcoming decades. These relate to the aging population, the need for workers to remain current with ever-changing technology, and the skills gap that results from a mismatch between educational programs and workforce needs.

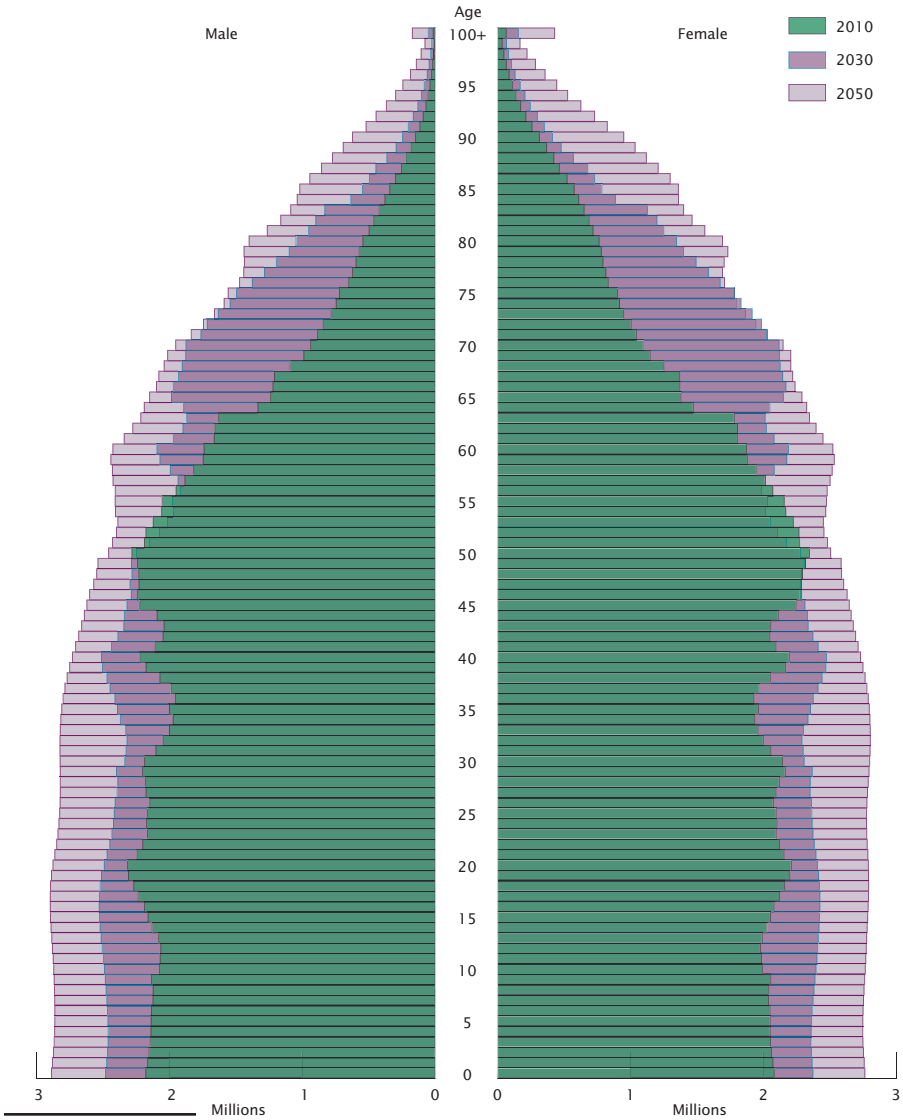
An Aging Population

The population of the U.S. is aging. The U.S. Census Bureau reported in 2010 that the dependency ratio, or the number of people 65 and older

to every 100 people of traditional working age, is projected to climb from 22 percent in 2010 to 35 percent in 2030 (as shown in Figure 3.1). After 2030, the rate will continue to rise, but more slowly, to 37 percent in 2050. People are living longer. Nationally, the group of those 85 and older will likely increase from about 14 percent of the population to 21 percent by 2050. This trend will have implications for healthcare services, pharmaceutical companies, and medical device manufacturing sectors.

Figure 3.1 illustrates the effect of the aging Baby Boom generation. The green bulge in the center shifts upward over time. In decades past, the graph of age in the U.S. was a pyramid. A wide base of children and working age people supported a tapering peak of retired and elderly people. Following World War II and the initial Baby Boom, the birth rate moderated. The result is a pattern of slow population growth, which results in a larger group of retired and elderly people (by percentage) to be supported by a smaller group of working age people.

Figure 3.1 - Age and Sex of the Population for the U.S.: 2010, 2030, and 2050[1]



1 U.S. Census. The Next Four Decades: The Older Population in the U.S.: 2010-2050. Retrieved on 03/12/2013 from www.census.gov_prod_2010pubs_p25-1138.pdf

The near-term effect of an aging population, coupled with the recent economic down-turn, is that older people represent a bigger share of the workforce. However, when the Baby Boom generation eventually retires, there will be a shortage of workers in some fields, especially in the areas of education, manufacturing, trades, and utilities.

A Workforce in Need of Retraining

Current workers in many fields will require retraining, or up-skilling, to remain effective in their jobs. The cost, in terms of time and money, to retrain these workers in areas such as new production methods and the use of new technologies presents a significant challenge to employers. The speed at which technology changes will only increase, exacerbating this challenge as employers endeavor to retain and retrain current valued employees and find new ones with up-to-date skills.

The Skills Gap

Like much of the U.S., the Buffalo Niagara region has a skills gap. High school graduates who elect to enter the workforce without postsecondary training often lack soft skills, such as problem solving and inter-personal communication, which could make them less attractive candidates for entry level positions. General workplace skills training, such as computer literacy, etiquette, writing, speaking skills, and time management, is essential.

While the regional population is well educated, some of the most popular postsecondary academic programs prepare graduates for jobs that are not available. Therefore, higher education institutions, particularly community colleges, must shift academic offerings to match current and future workforce demands. Strong, ongoing partnerships between industry and educators will benefit the region.

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Buffalo Niagara's Regional Workforce Needs

The rising cost of transportation and the difficulty of maintaining production standards over long distances have helped make domestic production attractive. As a result, many manufacturing businesses are bringing production operations back to the U.S. - referred to as onshoring - after years abroad. Some U.S. companies have carefully redesigned their supply chains and manufacturing processes for onshore manufacturing, resulting in two primary outcomes: less production cost and more local jobs. Buffalo is well positioned to attract business and industry due to:

- Existing robust manufacturing and logistics infrastructure
- Existing presence of leaders in targeted industries (advanced materials and life sciences)
- Ideal location for sourcing materials and distributing products (both domestically and in Canada)
- Plans in place, such as the Buffalo Billion, to advance economic prosperity
- Well-educated population with excellent educational institutions

The *Buffalo Billion Investment Development Plan* emphasizes the importance of commercialization, which is the process of bringing actual products to market after research and development is complete. Successful commercialization involves professions and skills from many industry sectors, which means that every employee in the Buffalo MSA has an important role in advancing the targeted industry sectors.

Many stakeholders who recognize the area's potential have begun working together to help ignite a renaissance in the Buffalo Niagara region. Leaders in this effort include Erie County, the Western New York Regional Economic Development Council (REDC), the Buffalo Billion Advisory Group, Erie County Office of Economic Development, Empire State Development, the University at Buffalo Regional Institute and Buffalo Niagara Enterprise. Figure 3.2 summarizes a series of reports, sponsored/published by these groups.[2] All three reports identified the same industry sectors as targets for growth in the region:

Which industry sectors are expected to grow during the next five to ten years?

- Advanced Manufacturing
- Health and Life Sciences
- Tourism

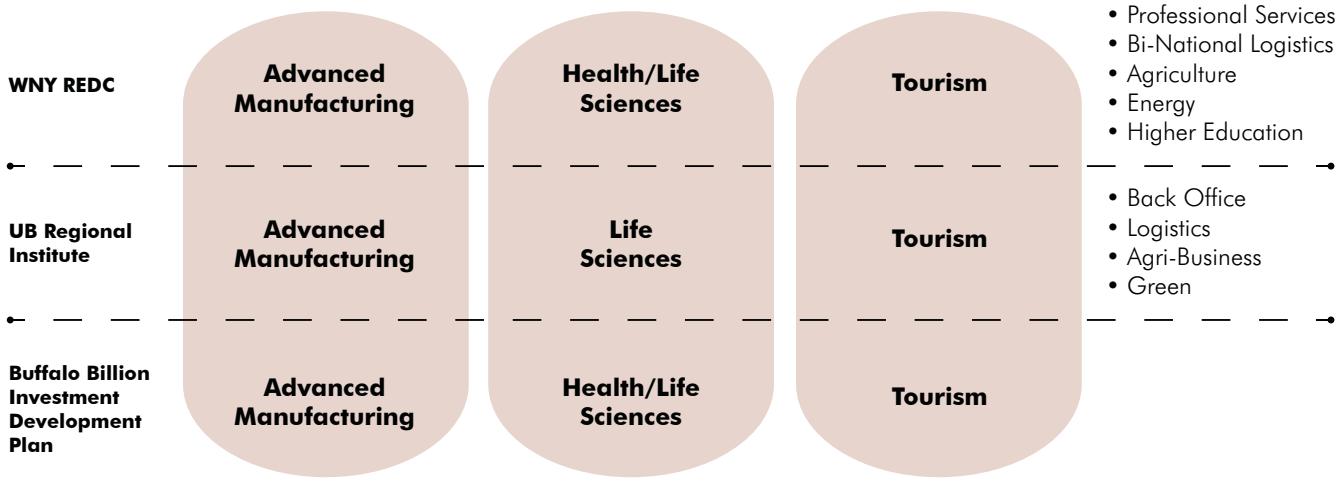
There are also other sectors that will grow alongside the targeted industries. Businesses providing professional services and logistics will be in demand. Energy-related workers, both in utility services and in renewable and alternative energy, will also be needed to facilitate expansion and modernization of utility grids.

Growth in all targeted sectors will impact higher education. Occupations typical of each targeted sector, listed in Figure 3.2, are shown to illustrate the diversity of jobs that will be needed to support the projected growth. Erie Community College has the opportunity to closely align its programs with the future workforce needs of the region. A detailed discussion of the targeted sectors follows.

2 These reports include the following: Buffalo Niagara Enterprise and the UB Regional Institute, Buffalo Niagara Labor Market Assessment 2011: Who's Your Economy; Western New York Regional Economic Development Council, The Billion Investment Development Plan, February 2013; Western New York Regional Economic Development Council, A Strategy for Prosperity in Western New York, Progress Report, September 2012.

Figure 3.2[20]

WNY Targeted Industry Sectors



Advanced Manufacturing

Aerospace Engineering and Operations Technicians
Assemblers and Fabricators
Civil Engineering Technicians
CNC Precision Machinists
Drafters
Electrical and Electronic Engineering Technicians
Electro-mechanical Technicians
Environmental Engineering Technicians
Food Processing Operators
Formers and Fabricators
Gas Fitter
Generator Technologist
Industrial Engineering Technicians
Industrial Maintenance Technicians
Inspectors, Testers, Sorters, Samplers & Weighers
Line Worker
Laborers and Material Movers
Machinists and Tool and Die Makers
Maintenance and Repair Workers
Materials Testing
Mechanical Engineering Technicians
Medical Equipment Technicians
Metal and Plastic Machine Workers
Painting and Coating Workers
Power Plant Operators, Distributors, Mechanics, and Dispatchers
Power Shed Technologist
Production Supervisors
Robotics
Quality Control Inspectors
Stationary Engineers and Boiler Operators
Transmission Technologist
Utility, Telecom, Power Company Workers
Welders, Cutters, Solderers, and Brazers

Health/Life Sciences

Agricultural and Food Science Technicians
Cardiovascular Technologists and Technicians
Chemical Technicians
Dental Assistants
Dental Hygienists
Dental Laboratory Technicians
Diagnostic Medical Sonographers
EMTs and Paramedics
Environmental Science and Protection Technicians
Licensed Practical and Licensed Vocational Nurses
Medical Assistants
Medical Records and Health Information Technicians
Medical Transcriptionists
Molding, Coremaking & Casting Machine Operators
Occupational Health and Safety Technicians
Ophthalmic Laboratory Technicians
Opticians, Dispensing
Radiation Therapists
Radiologic Technologists
Registered Nurses
Respiratory Therapists
Team Assemblers

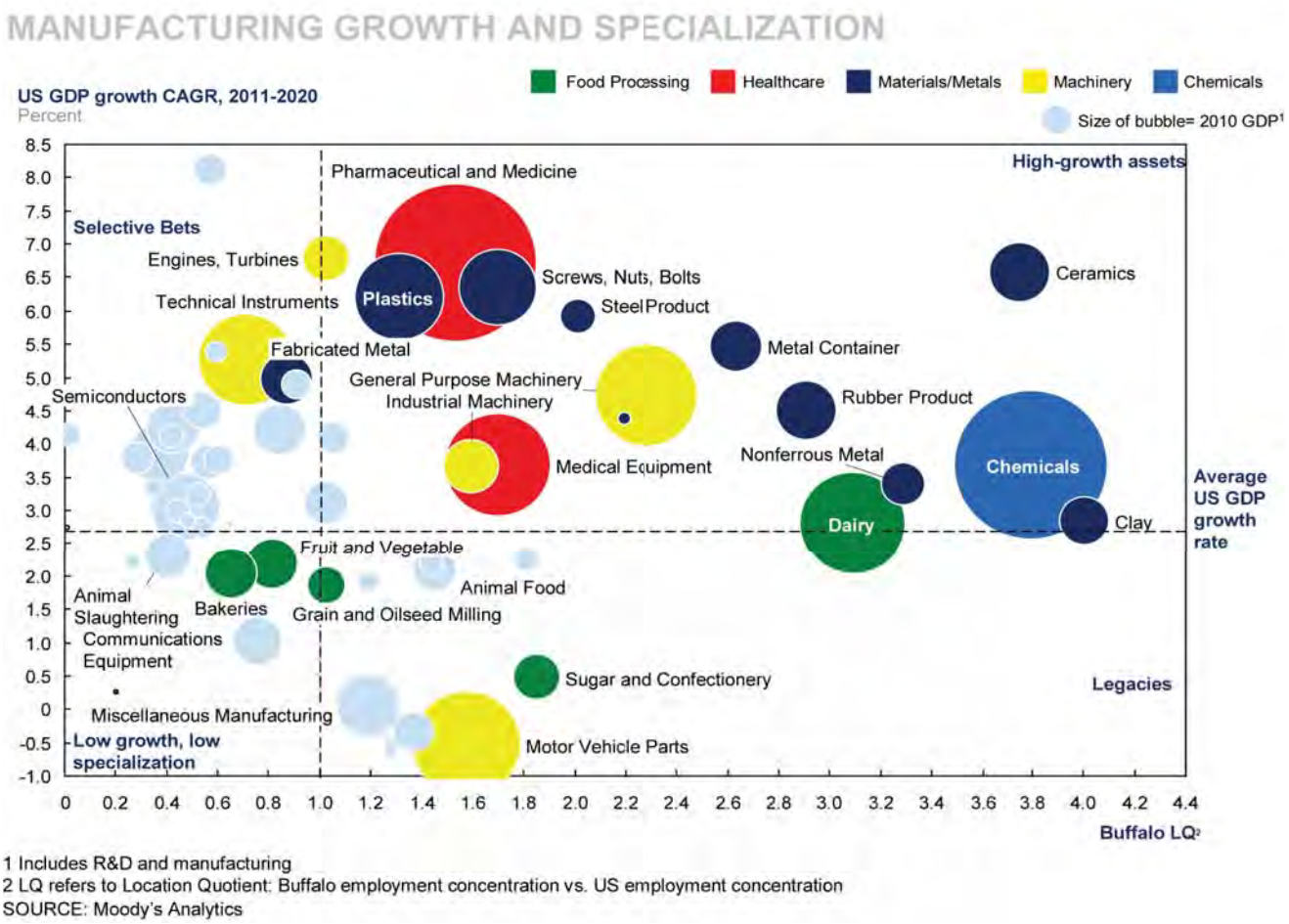
Tourism

Bakers
Bartenders
Cashiers
Casinos/Gaming
Cooks/Chefs
Food Processing Occupations
Hotel Management
Maids and Housekeeping
Retail Sales Workers
Tour Guides
Travel Agents
Waiters & Waitresses

Advanced Manufacturing

Illustrated below, industries within the Advanced Manufacturing cluster that show the greatest promise for growth in the region include pharmaceuticals and medicine, chemicals, machinery and metals, medical equipment, and advanced materials.[3]

Figure 3.3



Figures 3.3 and 3.4 illustrate the share of 2010 GDP and the growth potential of selected industry sectors in the Buffalo Niagara region.

- High-Growth Assets are those projected to grow most 2011-2020.
- Legacies have been part of the Buffalo Niagara economy for generations.
- Low Growth, Low Specialization industries are not projected to grow substantially 2011-2020.
- Selective Bets attract very specific investors.

- The ceramics-related industry is highly concentrated in the Buffalo Niagara MSA and is projected to grow 6.6 percent annually nationwide through 2020.
- The machinery and metals sector benefits from the established infrastructure and skill sets of the region's population.
- The chemical sector is also concentrated in Buffalo Niagara and is an important supplier to other industry sectors. Companies like CPL (Ontario, Canada, and Buffalo, New York) reflect the multi-disciplinary nature of manufacturing today. The company performs product development, manufacturing, packaging, and testing services related to pharmaceuticals – all of which are essential to bringing new concepts to market.
- Alfred University and the University at Buffalo have advanced laboratories for materials development.[4]

3 WNY Regional Economic Development Council. (February 2013). *The Buffalo Billion Investment Development Plan*, p. 12.
4 ibid., pp. 12-13.

The New York State Department of Labor forecasts declines in manufacturing, logistics, and advanced business services in Western New York through 2020. However, if business development and workforce preparation efforts are successful, the region could see an upswing in advanced manufacturing. This discrepancy may be attributed in part to the historical definitions of manufacturing versus what is now thought of as advanced manufacturing.

Paul Fowler, from the National Council for Advanced Manufacturing, defines advanced manufacturing business as entities:

> ...that make extensive use of computer, high precision, and information technologies integrated with a high performance workforce in a production system capable of furnishing a heterogeneous mix of products in small or large volumes with both the efficiency of mass production and the flexibility of custom manufacturing in order to respond rapidly to customer demands.[5]

This broad definition shows the challenge of applying historical data to emerging industries. The U.S. Census Bureau, the Bureau of Labor Statistics, and other data-gathering institutions have used standard codes, such as the Standard Occupational Classification (SOC) and the North American Industry Classification System (NAICS), to group jobs and industries for the purpose of statistical analysis. However, certain industry sectors are changing so rapidly that the standard codes are not good matches to the new job types that are being created. For example, section 51 of the SOC lists "Production Occupations" including such varied jobs as aircraft structure assemblers, fiberglass laminators, butchers, CNC machine tool programmers, and hundreds more. Because of the broad interpretation of occupational categories and industry sectors, data must be carefully considered before drawing conclusions.

Health and Life Sciences

The Health and Life Sciences sector includes service-oriented and production-oriented professions. Service-oriented health occupations, which include doctors, nurses, therapists, and laboratory technicians, are in demand due to the aging population. Production-oriented science occupations are aligned with advanced manufacturing, and include jobs that involve developing pharmaceuticals, designing and producing medical equipment and supplies, and medical research (to name a few).[6] Buffalo Niagara life sciences companies, such as Albany Molecular Research, Inc., and New York state initiatives, such as the Center of Excellence in Bioinformatics and Life Sciences, represent a substantial commitment and investment in the region. Investors, industry leaders, and research institutions recognize the benefits of growing their business in the Buffalo Niagara MSA. The region's history of scientific and medical innovation, coupled with its strengths in industry and logistics, make it a natural fit for life sciences businesses.

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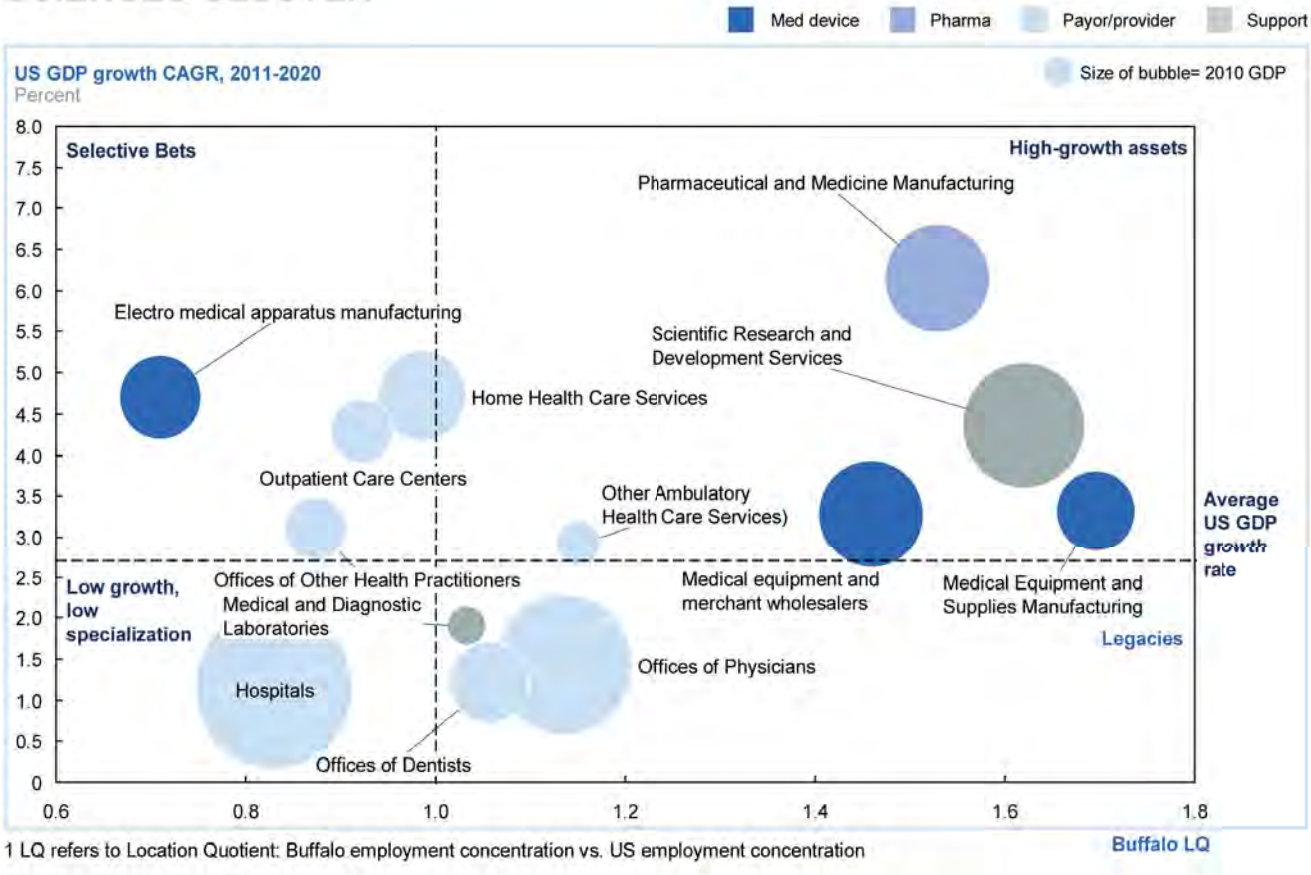
5 *White Papers on Advanced Manufacturing Questions, Draft Analysis, Science and Technology Policy Institute;* Prepared for the President's Council of Advisors on Science and Technology's Study on Creating New Industries through Science, Technology, and Innovation. Retrieved from http://www.whitehouse.gov/sites/default/files/microsites/ostp/advanced-manuf-papers.pdf

6 WNY Regional Economic Development Council. (February 2013). *The Buffalo Billion Investment Development Plan*, p. 14.

Figure 3.4

BUFFALO NIAGARA'S EMERGING HEALTH AND LIFE SCIENCES CLUSTER



1 LQ refers to Location Quotient: Buffalo employment concentration vs. US employment concentration

SOURCE: Moody's Analytics

Specific segments of the Health and Life Sciences sector are projected to grow nationally through 2021.[7]

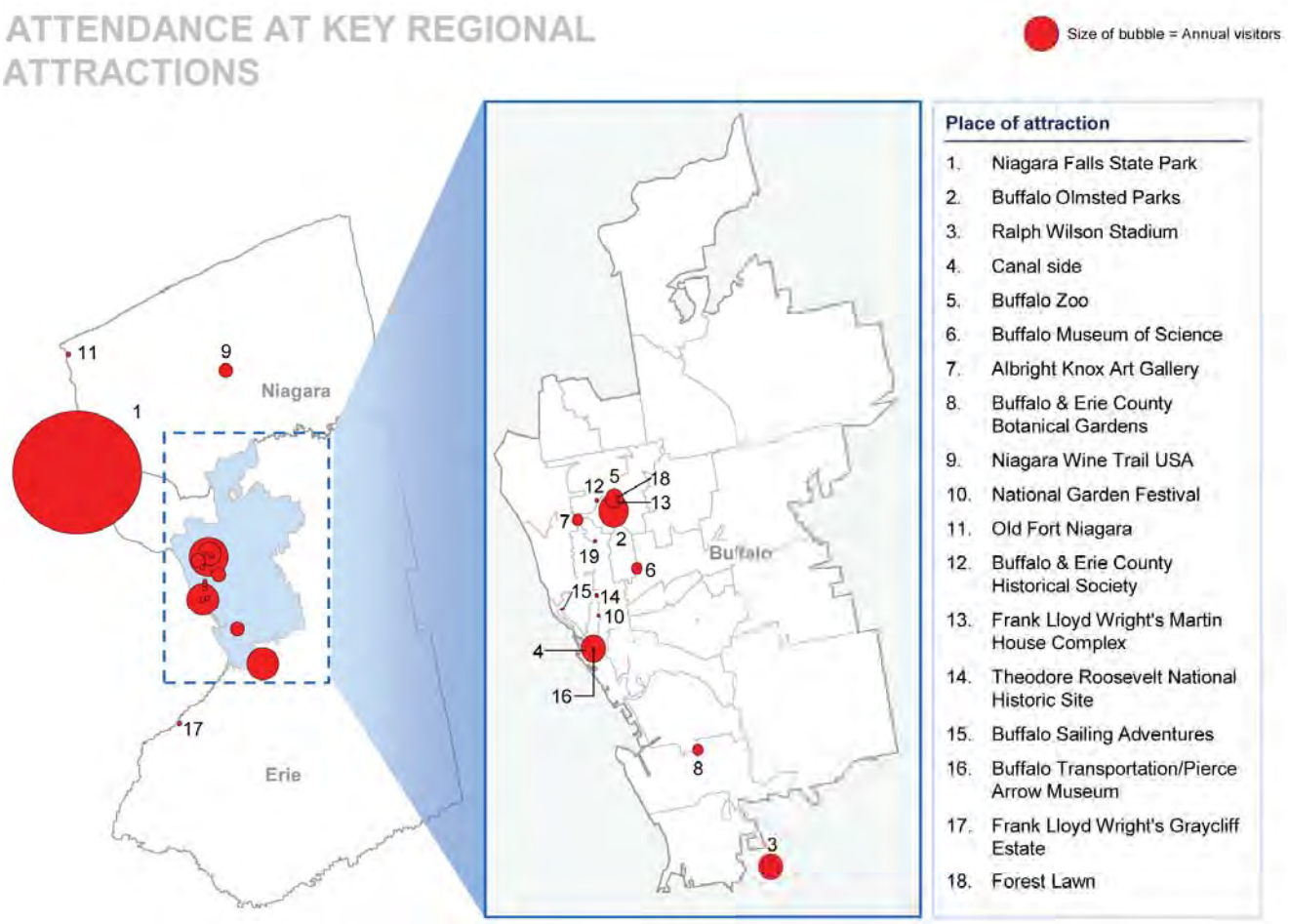
- The medical devices segment is projected to grow 3.5 percent per year nationally, and the segment is substantially more concentrated in Buffalo than in other U.S. cities.
- Pharmaceutical companies are poised for growth of 6.6 percent per year nationally; this sector is also more concentrated in Buffalo Niagara than in other parts of the country.

7 ibid., pp. 14-15.

Tourism

Tourism development in the region will focus on enticing visitors to enjoy attractions throughout the region, including Niagara Falls, encouraging them to stay longer and visit all of the area's cultural treasures. Most visitors to the Buffalo Niagara region stay for the day. If visitors extend their stays, they can enjoy many Erie County historic sites, museums, and outdoor activities.

Figure 3.5 [8]



SOURCE: Visit Buffalo Niagara

Targeted advancement in selected tourism sectors could result in the creation of entry-level jobs in areas such as hospitality, retail, transportation, galleries and museums, parks and recreation, and historical tourism.

www.visitbuffaloniagara.com

8 Adapted from *Buffalo Billion Plan*, p. 16.

Summary

A broad look at the Buffalo Niagara region suggests a bright future. Analysis of historic data alone cannot reveal the impact of the region's ongoing efforts at economic development. In the near term, jobs will result from industrial growth and increased demand for health care. Longer term, jobs will be available to fill openings left by retiring Baby Boomers, though replacement demand alone will not sustain growth.

Educational programs that are strategically aligned with industry development efforts will yield sustainable results. Partnerships between educators and industry leaders will drive continuous improvement in workforce development. Lessons learned by companies that survived the recession – flexibility, adaptation, streamlining, and onshoring – will be valuable in the future. Innovation will continue, and Buffalo Niagara is ready for the challenge.

photo by SkilliShots, Flickr.com

Erie Community College Students and Programs 4

Regional Demographics

The percentage of high school graduates who go on to college has been increasing as more jobs require a post-secondary education. This is true across the nation and in the Buffalo Niagara MSA, where more residents are enrolled in post-secondary school (by percentage) than in other communities. The Great Recession highlighted the advantage that college graduates enjoy throughout their lives in terms of employment stability and earnings. These trends may buffer ECC enrollment from the projected decline in population in the Buffalo Niagara MSA (Figure 4.1). 66 percent of ECC students are under the age of 24. As more people become aware of the benefits of community colleges, what was once a "fall-back option" may become the first choice for obtaining a college education.

Figure 4.1 - Age Distribution 2015-2030 in Erie and Niagara Counties[1]

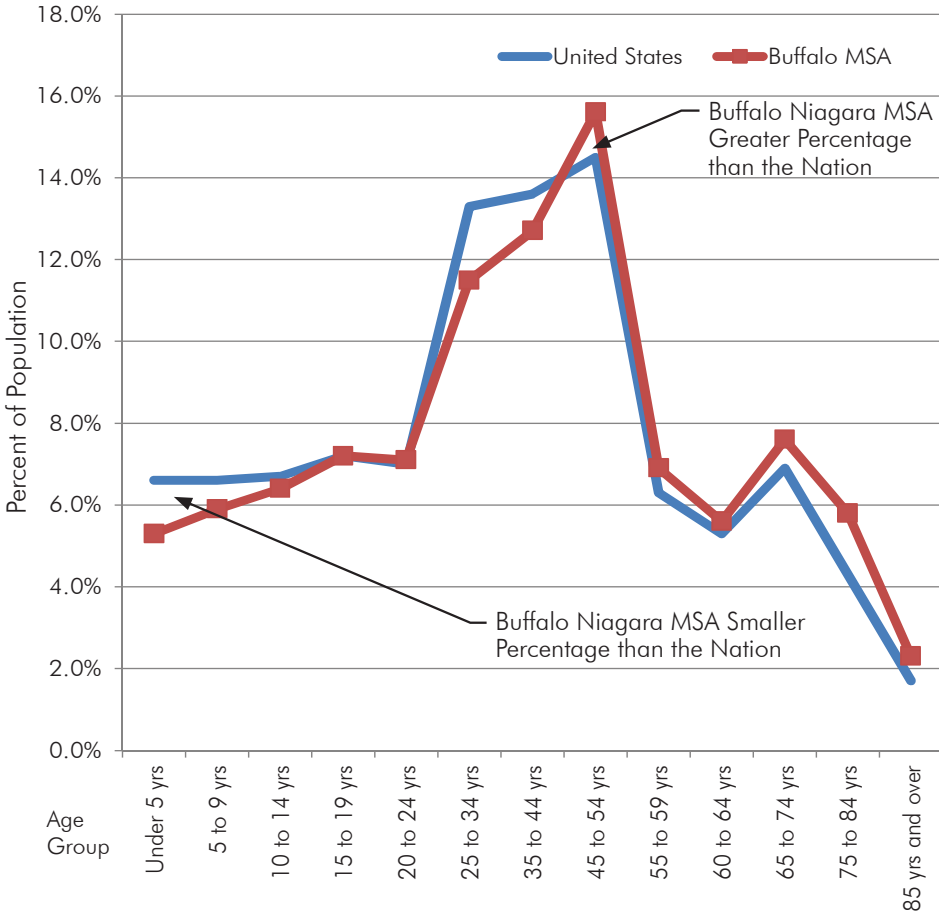
County	Age Group	2015	2020	2025	2030	% Change
Erie	0-4	52,052	51,725	49,449	46,391	-10.9%
	5-9	49,673	52,294	51,736	49,424	-0.5%
	10-14	53,287	49,565	51,795	51,058	-4.2%
	15-19	58,370	54,343	50,941	52,618	-9.9%
	20-24	64,473	57,228	54,118	51,263	-20.5%
	25-29	61,825	58,098	51,573	49,045	-20.7%
	30-34	56,629	59,379	55,750	49,581	-12.4%
	35-39	49,843	55,725	57,776	54,209	8.8%
Niagara	0-4	11,852	11,655	11,069	10,360	-12.6%
	5-9	11,679	11,882	11,630	11,039	-5.5%
	10-14	12,472	11,672	11,811	11,517	-7.7%
	15-19	13,228	12,317	11,568	11,623	-12.1%
	20-24	13,786	12,052	11,319	10,665	-22.6%
	25-29	13,064	12,720	11,151	10,562	-19.2%
	30-34	12,340	12,865	12,428	10,927	-11.5%
	35-39	11,883	12,581	12,972	12,476	5.0%

1 Source: Cornell University College of Human Ecology http://pad.human.cornell.edu/counties/projections.cfm

Enrollment Projections

The Buffalo Niagara MSA population is projected to decline 7.6 percent (losing about 84,000 people) between 2015 and 2030.[2] Today, the Buffalo Niagara MSA population is made up of fewer young people (by percentage) than the nation overall. The MSA median age (40.4) is greater than the nation (37.0). In Figure 4.2, the age group of children aged 0-14 is smaller in the Buffalo Niagara MSA than in the nation. The Buffalo Niagara MSA will have fewer college-age people than the nation through the 2020 decade and into the 2030s.

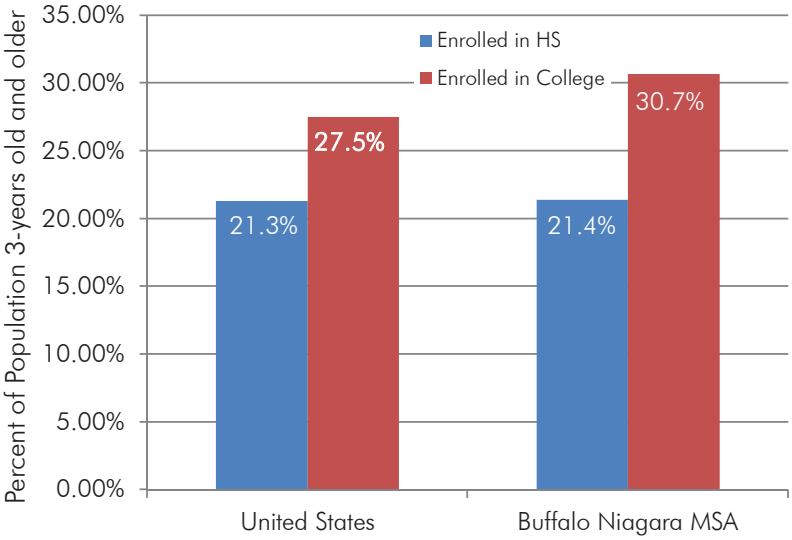
Figure 4.2 - Age Groups in the Buffalo Niagara MSA and the Nation



However, more Buffalo Niagara MSA residents are enrolled in postsecondary education than in the nation (Figure 4.3).[3]

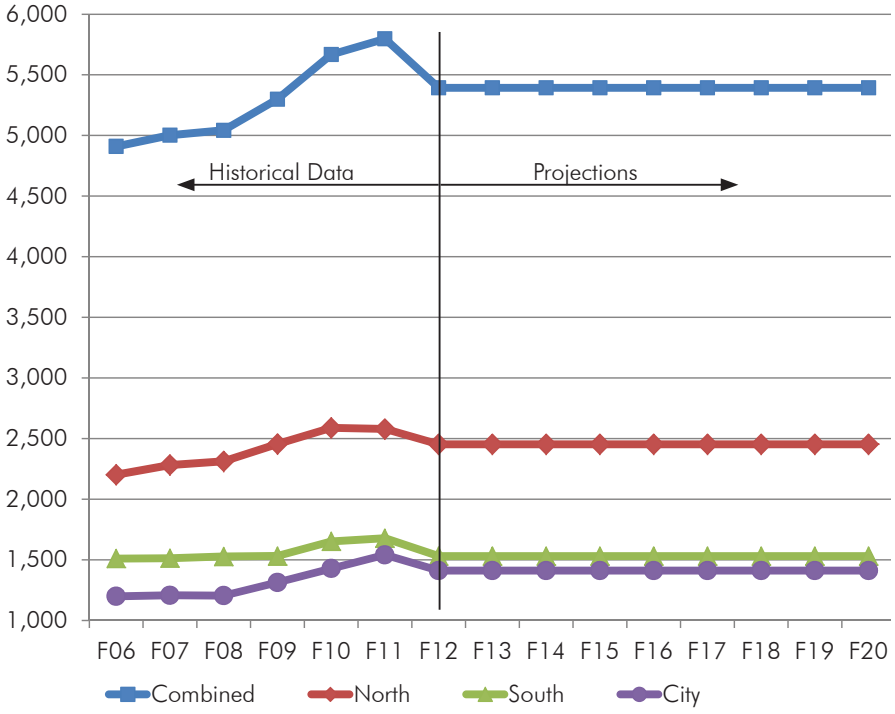
2 Data retrieved from http://pad.human.cornell.edu/counties/projections.cfm
3 U.S. Census 2011 5-Year Estimate Buffalo Niagara MSA and U.S. http://factfinder2.census.gov

Figure 4.3 - Postsecondary Enrollment



During the 2011-2012 academic year, ECC's North Campus saw steady enrollment. South Campus lost students after the recession and currently has a smaller enrollment than it did in 2006. Between 2006 and 2012 City Campus grew the most (by percentage) and peaked in 2010, but remains the smallest of ECC's campuses (Figure 4.4). Moderate enrollment growth of about 1% per year is projected through 2020 across the three campuses. Comparison to the other SUNY community colleges (Figure 4.5) reveals a similar trend.

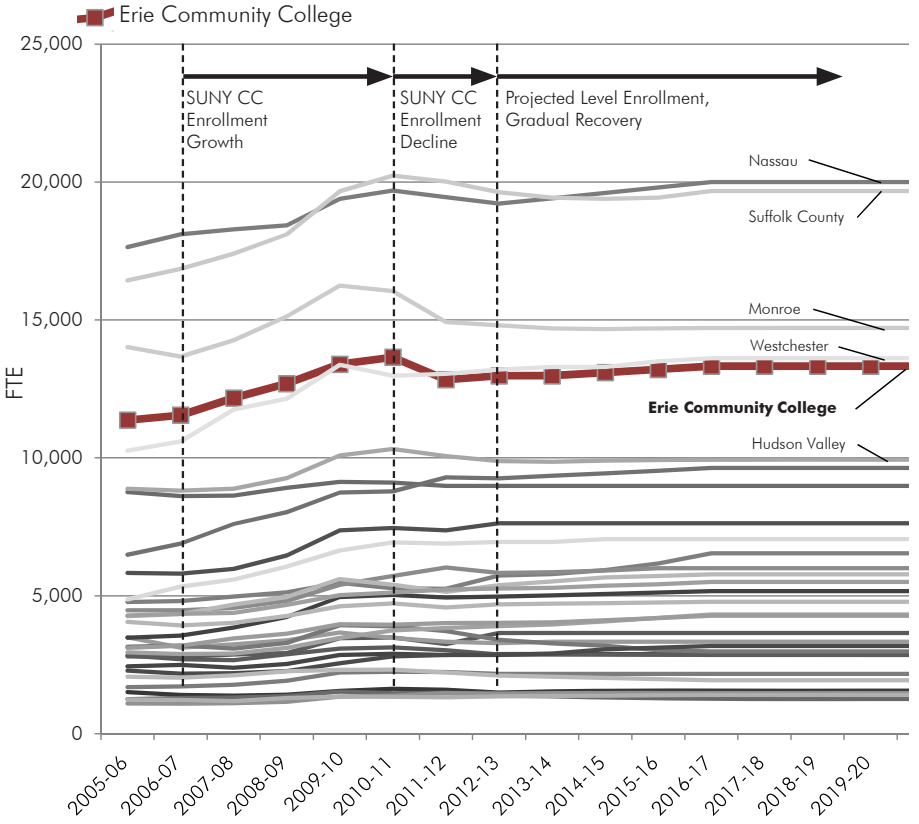
Figure 4.4 - Enrollment Projections on ECC Campuses[4]



4 Data Source: Erie CC Comparative Trends for AAFTE

SUNY community colleges experienced a peak in enrollment during the recession. Between 2007 and 2010 people went back to school in large numbers in an attempt to update their job skills. However, since then enrollment has declined and is expected to level off in the coming years, as shown in figure 4.5. The graph shows full-time equivalent enrollment (FTE) at all SUNY community colleges as reported by SUNY in Fall 2011. ECC, represented by the red line, shows post-recession projections similar to its peers: very slow enrollment growth through 2020.

Figure 4.5 - Common Enrollment Trend at SUNY Community Colleges[5]



Student Characteristics

ECC is competitive with its peers in the region, historically capturing over 30 percent of Erie County's college attendees. With all colleges competing for students and for funding, ECC must maximize student attraction and retention to get ahead and stay ahead.

ECC's student body is made up almost entirely of Erie County Residents (Figures 4.7 and 4.8).[6, 7]

5 Source: ECC_ProjectedEnrollment.xls provided by ECC
6 Data Source: Erie CC 2011-2012 Home Institution Student Count
7 Data Source: Erie CC F2012 Student List

Figure 4.6 - SUNY Colleges and Universities Attended by Erie County College Attendees

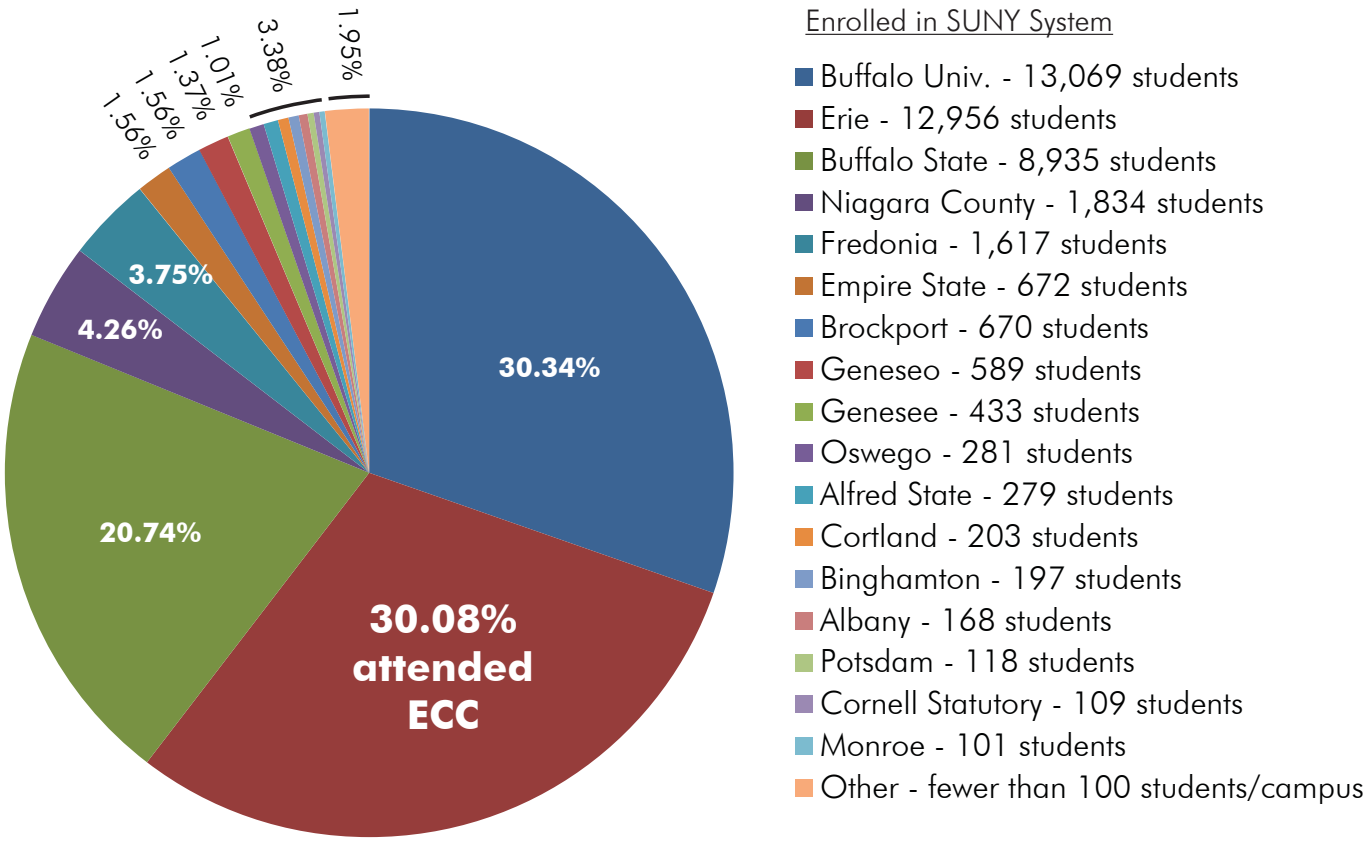
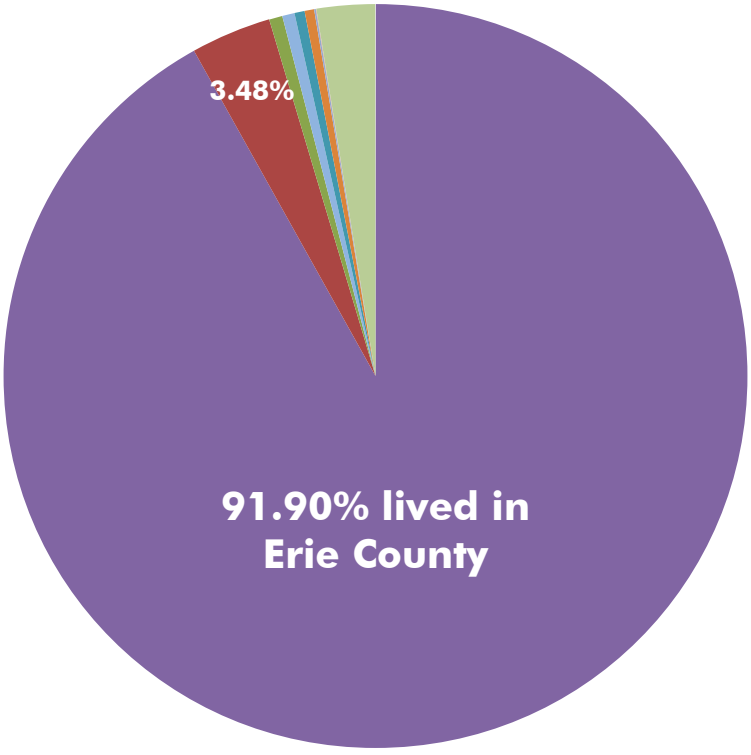


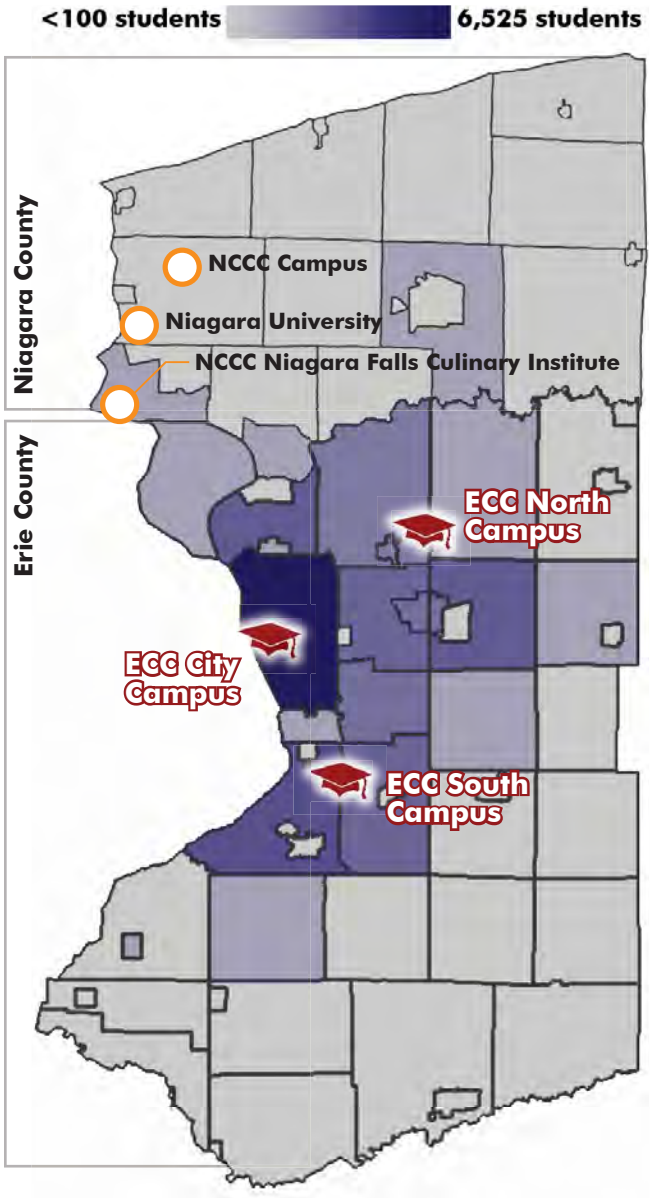
Figure 4.7 - ECC Students' Counties of Residence



County	Attendees	Percent of F2012 Enrollment
Erie	12,856	92.0%
Niagara	488	3.5%
Cattaraugus	81	0.6%
Chautauqua	75	0.5%
Wyoming	62	0.4%
Genesee	58	0.4%
Orleans	10	0.1%
Allegany	3	0.0%
All Others	357	2.5%

Of all ECC students, including those that live out of state, 46.7 percent live in Buffalo. The next-largest group (5.0 percent) lives in Hamburg. The municipalities of Niagara County that contribute the most students to ECC are Lockport, North Tonawanda, and Niagara Falls. However, no municipality in Niagara County contributes to more than 1 percent of ECC enrollment.[8]

Figure 4.8 - ECC Erie County and Niagara County Students' Residences Density Map[9]



8 Note: This report uses two main sources for ECC enrollment. The source "Erie CC F2012 Student List" was provided by ECC. It is used to count students, the campuses they attend, the programs in which they are enrolled, and where they live. The source "Erie CC 2011-2012 Home Institution Student Count" was provided by ECC, though its origins are at SUNY. The "Student Count" file is the Erie County chargeback data. It is used to count residents of Erie County attending other SUNY colleges and the programs that they study. Because the sources are from different years, enrollment numbers in Figures 4.11 and 4.12 may differ slightly from the ECC-only enrollment numbers.

9 Data Source: ECC F2012 Student List

Commuting Patterns

More students who live in the City of Buffalo commute to North Campus than attend the City Campus. Many municipalities have more residents commuting to North Campus than attending their nearest campus.[10]

Public transportation offers access to all ECC Campuses; however, some of the trips are time-prohibitive. The ECC Circulator is a dedicated bus line serving only the ECC campuses. Currently all ECC Circulator trips between North Campus and South Campus go through downtown Buffalo; the trip takes over an hour.[11]

Figure 4.9 - Municipality of Residence and Campus Attended

County	Municipality of Residence	Campus Attended					Total
		City	North	South	High School	Cross-Enrolled	
Erie	Buffalo	2,465	2,994	995	69	70	6,593
	Lancaster	43	381	80	4	2	510
	Tonawanda	71	363	36	69	1	540
	Depew	34	244	51	5		334
	E. Amherst	12	198	12	6	1	229
	Cheektowaga	56	196	57	89	2	400
	Wiliamsville	17	174	16	10	3	220
	Amherst	25	158	13	19	4	219
	Hamburg	61	124	444	70	6	705
	Clarence	8	103	11	15	1	138
	Kenmore	34	91	5	50	1	181
	Orchard Park	30	89	267	31	3	420
	Alden	7	77	20	13	2	119
	West Seneca	36	77	179	29	3	324
	Grand Island	22	67	10	28		127
	E. Aurora	14	63	113	13		203
	Elma	7	46	67	1		121
	Angola	21	34	80	10	1	146
	Lackawanna	29	32	103		3	167
	Lake View	10	29	77	3		119
	Eden	14	25	81	17		137
Niagara	Lockport	11	100	23	7		141
	N. Tonawanda	4	6	1	1		12
	Niagara Falls	43	60	13	5	1	122

10 ECC F2012 Student List
11 Google Transit – linked directly from Niagara Frontier Transportation Authority – retrieved from Web 3-11-13

Erie County Residents in the SUNY System

According to ECC's Home Institution Student Count, 43,071 Erie County residents attended college in the SUNY System in 2011-2012. ECC captured 12,956 of these students. Niagara County Community College captured 4.26 percent of Erie County's SUNY students.

While students from Erie County might travel to other community colleges in the region because of convenience of schedule, the reputation of the academic program, or the perceived quality of the institution, ECC is clearly the most convenient for most of them in terms of time and in mileage.

Figure 4.10 shows the number of Erie County residents enrolled in similar programs at the region's SUNY community colleges 2011-2012.[12]

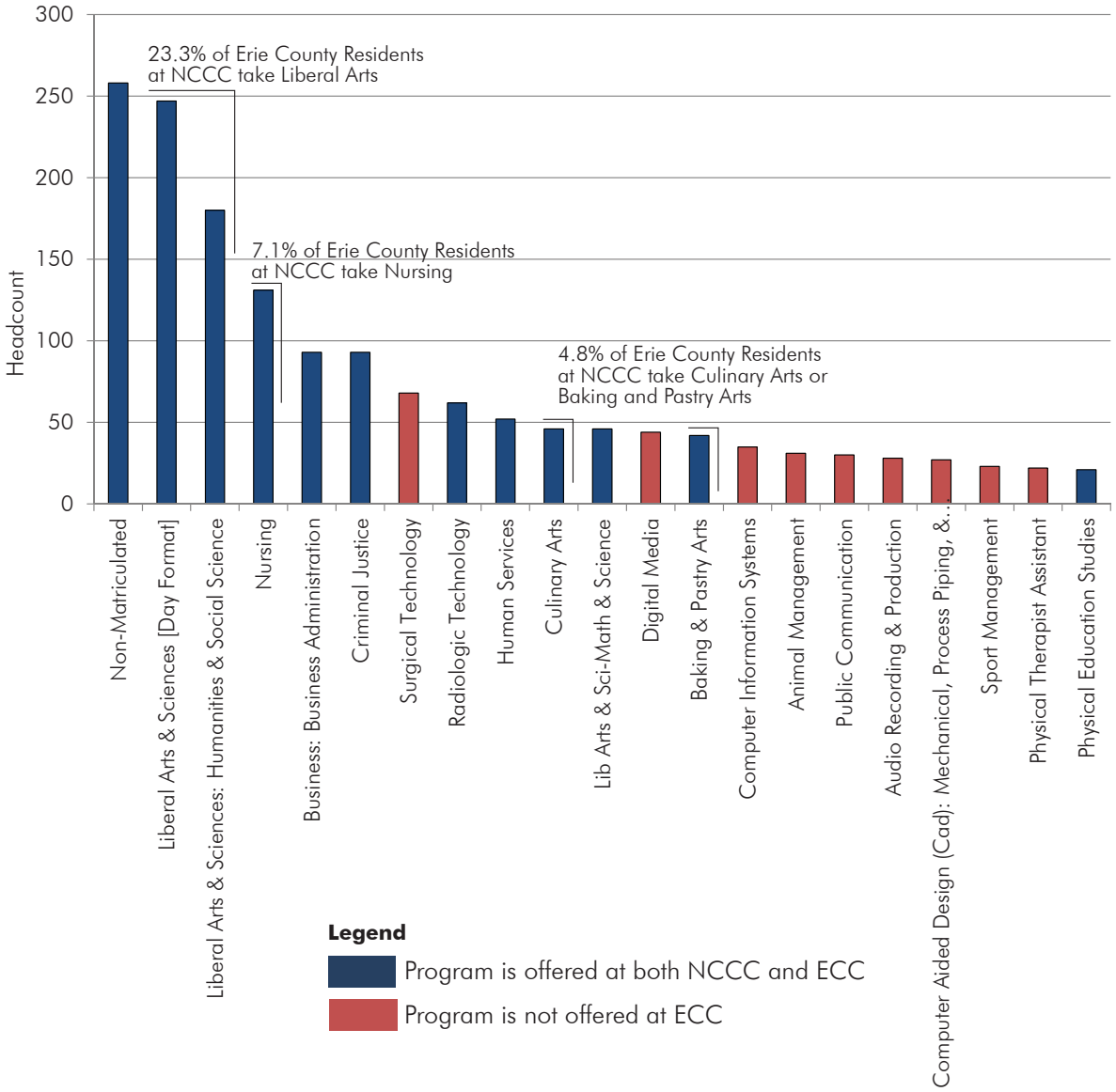
Figure 4.10 - Erie County Residents at Nearby SUNY Community Colleges

Programs Offered at ECC ***and*** at other WNY SUNY Community Colleges	Erie County Residents Enrolled at WNY SUNY Community Colleges				Total Erie County Residents Enrolled at WNY SUNY Community Colleges	Number not attending ECC	Percent not attending ECC
	ECC	GCC	JCC	NCCC			
Non-Matriculated	2,036	163	19	258	2,476	440	17.8%
Liberal Arts General Studies	4,209	63		247	4,519	310	6.9%
Liberal Arts Humanities & Soc. Sci.	687	3	3	180	873	186	21.3%
Liberal Arts Math & Science	278	1	9	46	334	56	16.8%
Liberal Arts Childhood Education	23		2		25	2	8.0%
Nursing	362	14	2	131	509	147	28.9%
Criminal Justice	542	16	1	93	652	110	16.9%
Business Administration	662			93	755	93	12.3%
Human Services	62	8		52	122	60	49.2%
Culinary Arts	115			46	161	46	28.6%
Baking	15			42	57	42	73.7%
Physical Education Studies	149	9	1	21	180	31	17.2%

Niagara County Community College attracts more Erie County residents (1,834 in 2011-2012) than any other nearby community college. In Figure 4.11, the blue bars indicate enrollment at NCCC in programs that are also offered at ECC. This suggests that Erie County residents are not choosing NCCC over ECC because of the academic program offerings. In fact, the largest group of these students by number is studying Liberal Arts.

12 ECC 2011-2012 Home Institution Student Count

Figure 4.11 - Programs Studied by Erie County Residents at NCCC[13]



13 ECC 2011-2012 Home Institution Student Count

Erie Community College Campus Enrollment

Figures 4.12 through 4.14 are density maps prepared by the Erie County Department of Environment and Planning Office of Geographic Information Services. The maps show where ECC's students live and the campuses to which they commute. The density of students on each map reveals that geography alone is not the deciding factor for most students. For both the North Campus and the South Campus, the most dense concentrations of students reside geographically just between their campus of choice and the City Campus. This indicates that factors such as program offerings, campus facilities, and schedule influence students' decisions on where to attend.

Figure 4.15 illustrates ECC program enrollment by campus in Fall 2012.

Figures 4.16 and 4.17 provide information about ECC programs, divisions, and campuses.[14] Enrollment trends by program over time are inconclusive because ECC recently combined some programs and split others. Therefore, many popular programs appear to be dramatically declining in enrollment even though they are thriving. For this reason, program trend data are not included in this report.

14 Maps prepared by Erie County, New York Office of Geographic Information Services

Figure 4.12 - North Campus Students' Residences Density Map

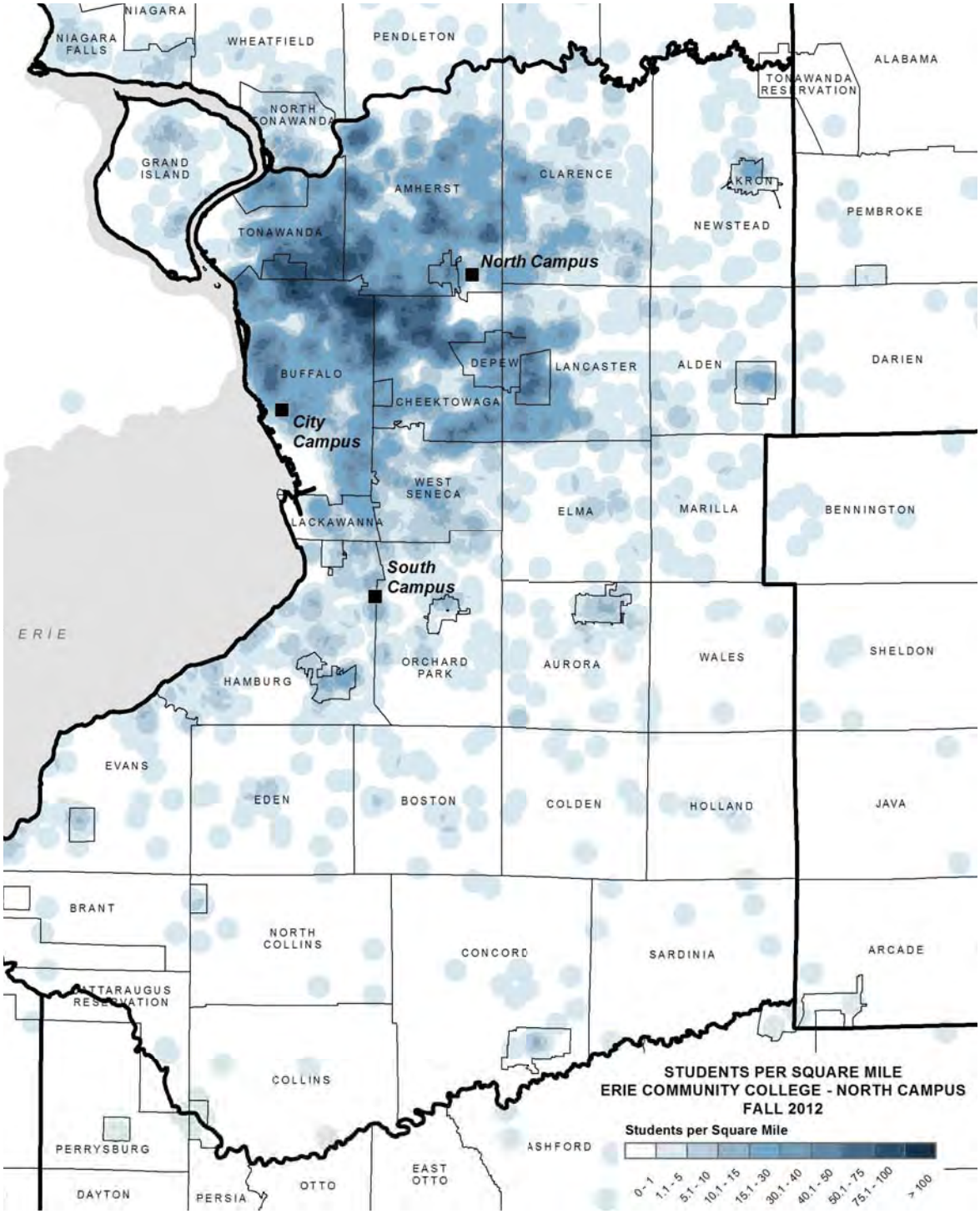


Figure 4.13 - South Campus Students' Residences Density Map

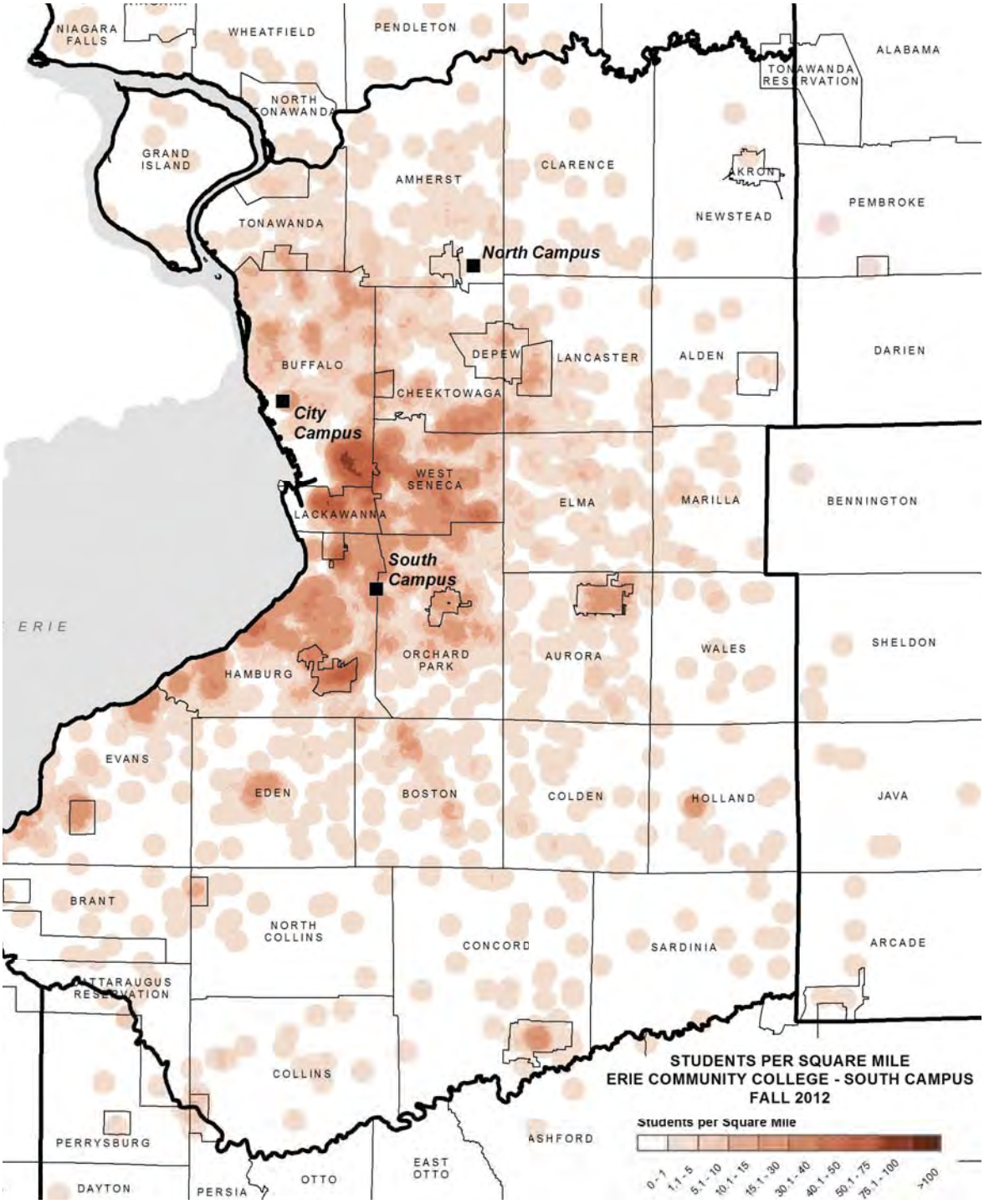


Figure 4.14 - City Campus Students' Residences Density Map

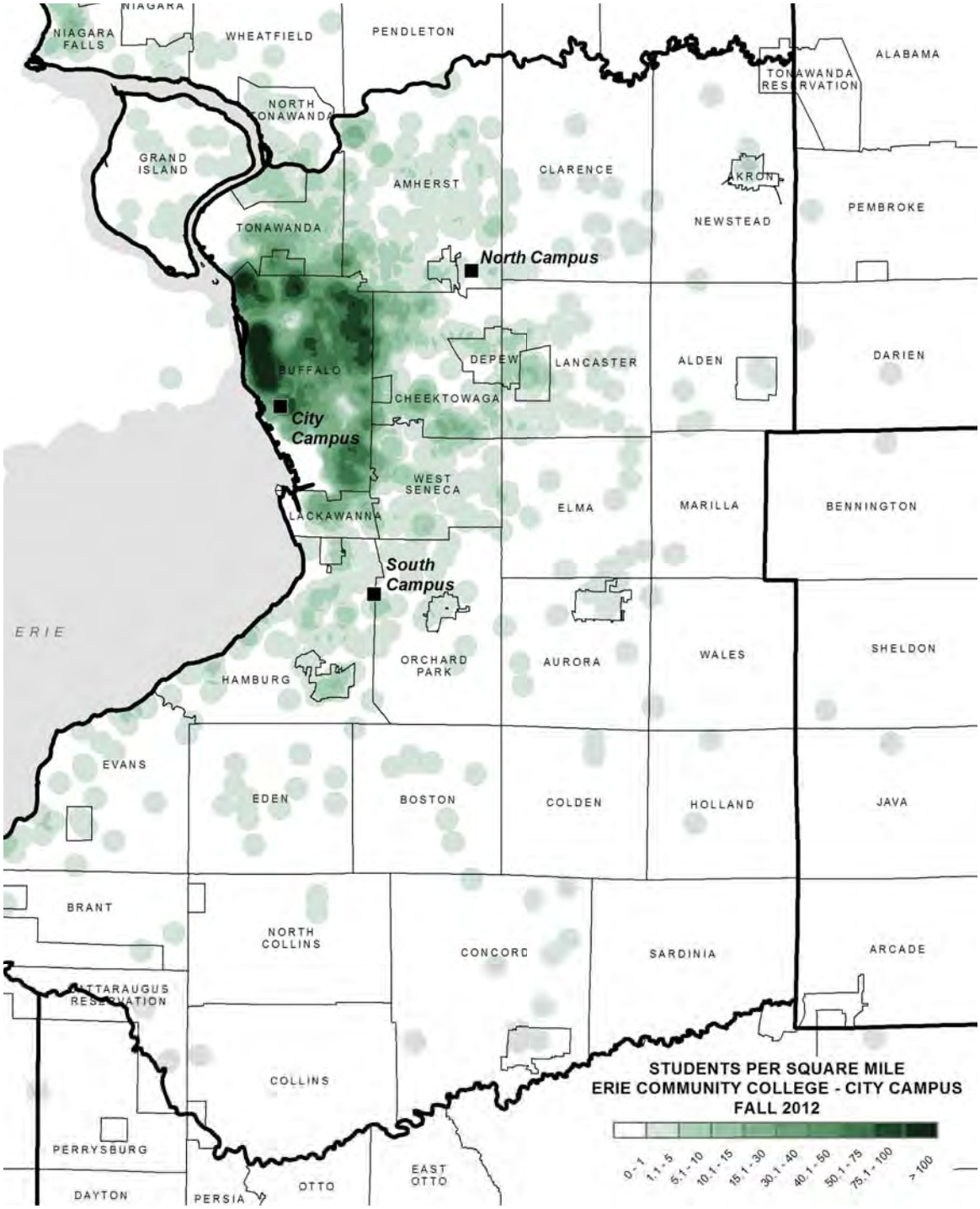


Figure 4.15 - Program Offerings and Headcount by Campus

Division	Program	Program Description	City	North	South	High School	Cross	Program Total
BPS	1415.BPA	Baking and Pastry Arts	29					29
	671.BUS	Business: Business Administration	89	222	108			419
	637.OFT	Business: Office Management	8 ●	47	23			78
	632.BUS	Business: Business Administration	209	346	201			756
	2187.CIF	Computer Security and Investigation/Digital Forensics		12				12
	1933.CST	Crime Scene Technology	18	13				31
◐	641.CRJ	Criminal Justice	1	2				3
◐	641B.CRJ	Criminal Justice	173	195	185			553
◐	1035.CLE	Criminal Justice: Law Enforcement		336				336
◐	640.CRJ	Criminal Justice: Police		2				2
	578.CUL	Culinary Arts	80	110				190
	606.ECE	Early Childhood	176	3 ●				179
	1741.EMA	Emergency Management	16	1 ●	3 ●			20
	1192.ENP	Entrepreneurship	9					9
	907.FNS	Financial Services	8					8
	639.FPT	Fire Protection Technology			41			41
	572.FSA	Hotel Restaurant Management		60				60
	1492.INT	Information Technology	3 ●	83	66			152
	691.PAR	Paralegal	156	1 ●	1 ●			158
	1485.PES	Physical Education Studies	49	58	73			180
	1827.PBT	Police Basic Training		19				19
	2080.PLS	Police Science		19 ●				19
BPS TOTAL			1,024	1,529	701			3,254
ET	453.AUT	Auto Trades:Autobody Repair			49			49
	525.AUT	Automotive Technology	1 ●	1 ●	195			197
	576.BOM	Building Mgmt & Maintenance	82					82
	977.BOM	Building Trades/Residential Light Commercial	28	2 ●				30
	1867.CGM	Casino Gaming Machine Repair Technician			10			10
	517.CIV	Civil Engineering Technology		51				51
	2202.CAD	Computer Aided Drafting/Design Technology			60			60
	495.CRT	Computer Repair Technology		1 ●	63			64
	538.ARC	Construction Technology - Architectural Technology		1 ●	74			75
	1788.CET	Construction Management Engineering Tech		112				112
	699.EET	Electrical Engineering Technology		91				91
	2249.EUT	Energy Utility Technology		28				28
	530.ESI	Engineering Science		173				173
	2190.GBT	Green Building Technology	7					7
	961.EET	Heating & Air Conditioning		1				1
	2239.HVA	Heating,Ventilating, AC & Refrigeration Tech		46				46
	583B.MET	Industrial Technology		60				60
	493.MET	Mechanical Engineering Technology		59				59
	1022.TET	Telecommunications Technology			21			21
	1179.TLC	Telecommunications Technology: Verizon			69			69
ET TOTAL			118	626	541			1,285

Source: ECC F2012 Student Data

Abbreviations:

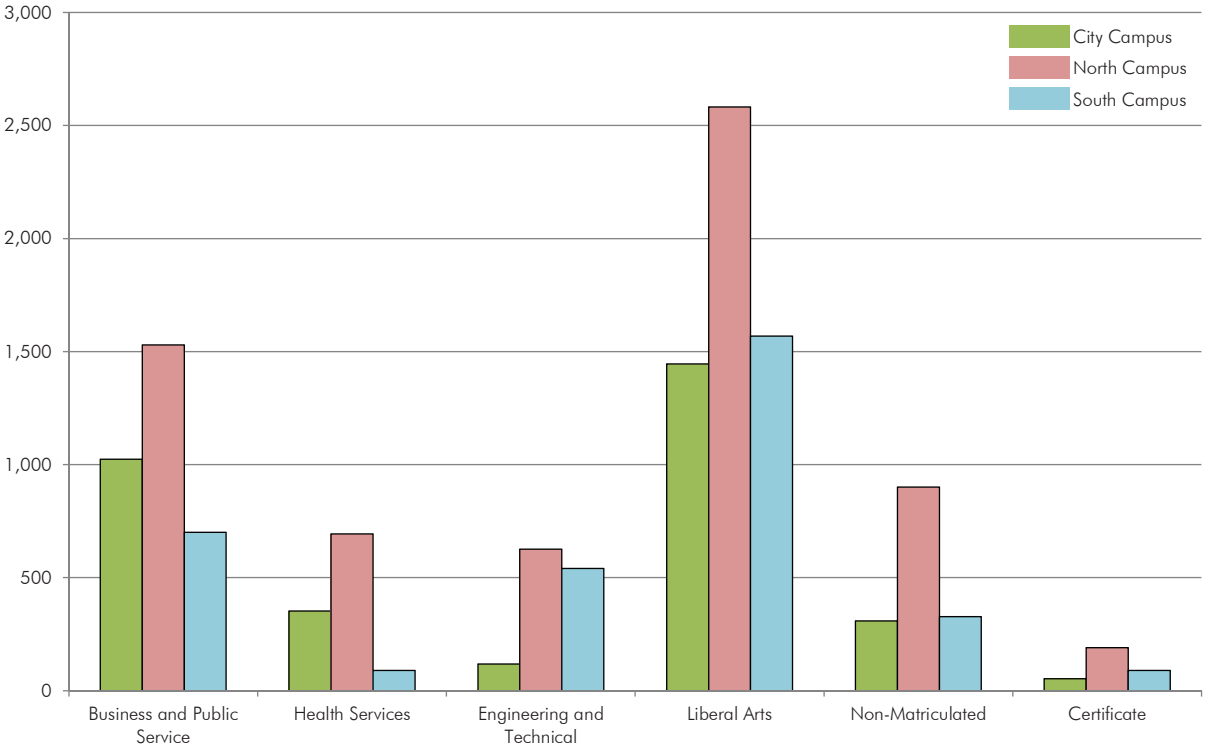
BPS	Business and Public Service Division
HS	Health Services Division
ET	Engineering and Technologies Division
LA	Liberal Arts Division
Cert	Certificate
NM	Non-Matriculated

Symbols:

- ○ Program offered at this campus, but no students enrolled
- ● Students enrolled, but program not offered at this campus
- ◐ Partial program offering at this campus
- ◐ Programs share same first-year classes
- Indicates that the program is offered at this campus

Division	Program	Program Description	City	North	South	High School	Cross	Program Total
HS	2188.CLT	Clinical Laboratory Technician		53				53
	1353.DNA	Dental Assisting		24				24
	545.DHY	Dental Hygiene		106				106
	547.DLT	Dental Laboratory Technology		1 ●	40			41
	983A.EMT	Emergency Med Technology/Paramedic		2 ●	9			11
	983B.EMT	Emergency Med Technology/Paramedic		2 ●	7			9
	2186.EMS	Emergency Medical Services Provider	2 ●	19	21			42
	573.NDT	Food Serv Admin-Diet Tech-Nutr Care	2 ●	39	2 ●			43
	1117.HIT	Health Information Technology	3 ●	50	4 ●			57
	602.MOA	Medical Office Assistant		54				54
	541.ALC	Mental Health Assistant - Alcohol Counseling	34					34
	623.SUB	Mental Health Assistant - Substance Abuse	146	1 ●	2 ●			149
	622.NUR	Nursing	131	204				335
	665.OTA	Occupational Therapy Assistant	1 ●	30	2 ●			33
	549.OPT	Ophthalmic Dispensing	2 ●	57	1 ●			60
	669.RAD	Radiologic Tech:Radiation Therapy Tech	30	4 ●	1 ●			35
	655B.RES	Respiratory Care	1 ●	48	1 ●			50
HS TOTAL			352	694	90			1,136
LA	501.CMA	Communication & Media Arts-Communication Arts		2 ●	180			182
	532.CSE	Computer Science		127	1 ●			128
	2061.ENS	Environmental Science AS		46				46
	2241.ETG	Environmental Technology Geoscience		16				16
	1470.GIS	Geographic Information Systems Software App Spec		7				7
	1802.ELE	Lib Arts & Sci: Childhood Ed 1-6 (Teacher Ed Trans.)	45	1	○			46
	250.GST	Lib Arts & Sci-General Studies	1,092	1,928	1,114			4,134
	212.SOC	Lib Arts & Sci-Hum & Soc Sci.	139	167	120			426
	220.SCI	Lib Arts & Sci-Mathematics & Sci.	71	128	94			293
	221.MTH	Lib Arts & Sci-Mathematics & Sci.	○	61	○			61
	201.HUM	Lib Arts Sci-Hum & Soc Sci.	98	99	60			257
LA TOTAL			1,445	2,582	1,569			5,596
Cert	2150.BIM	Bio Manufacturing		14				14
	2081.CNC	CNC Precision Machining		67				67
	1787.CAO	Computer Applications for the Office		17				17
	1932.HLS	Homeland Security	6	15	◐			21
	949.HS	Human Services	31	33	8			72
	1931.ISS	Information Systems Security		7				7
	980.MOA	Medical Office Practice		33				33
	935.OFT	Office Assistant (Formerly Clerk Typist)	10		1 ●			11
	1330.TEA	Teaching Assistant	6	○	○			6
	677.VCT	Visual Com Tech-Graphic Arts & Printing			69			69
	1418.WPD	Web Page Design			12			12
	1670.WNT	Web-Network Technology		4				4
Cert TOTAL			53	190	90			333
Discontinued	609.HPR	Recreation Leadership			18			18
NM	909.NNM	Non-Matriculated	308	901	327	703	129	2,368
Grand Total			3,300	6,522	3,336	703	129	13,990

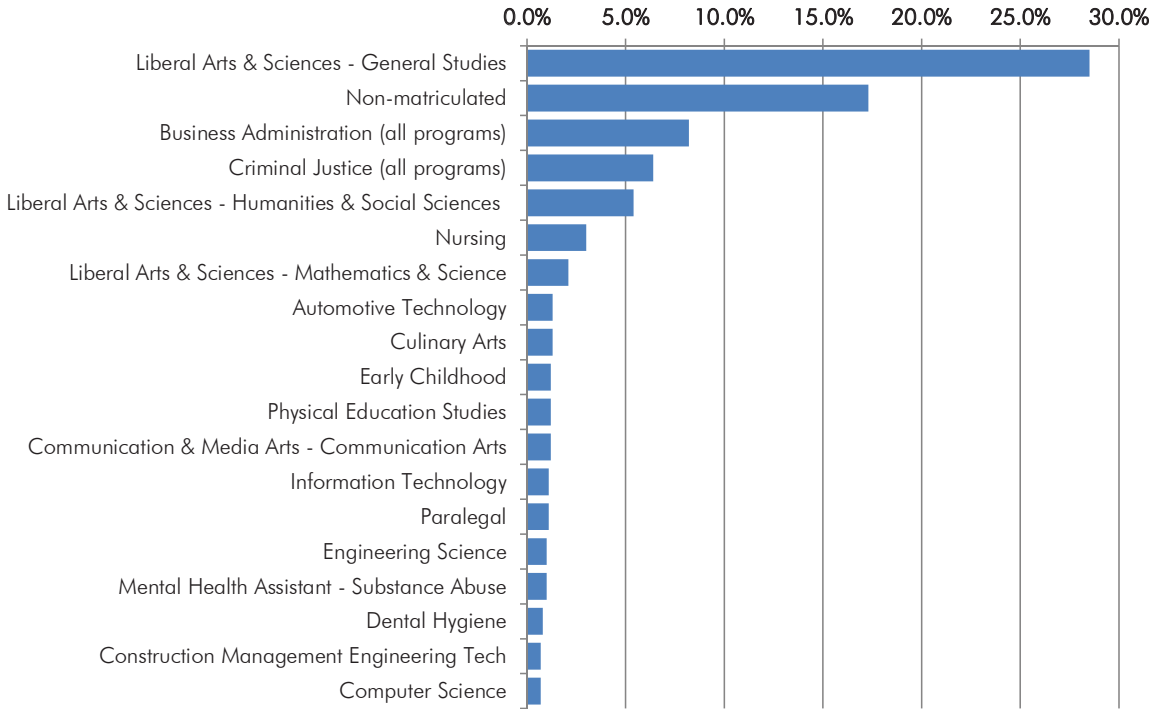
Figure 4.16 - Division Headcounts by Campus - F2012



Program Enrollment

Figure 4.17 shows ECC programs with enrollment of 100 students or more in Fall 2012. Enrollment in these programs represents 83.6% of ECC's total enrollment. The remaining 62 programs each have enrollment of fewer than 100 students.

Figure 4.17 - ECC Program Enrollment

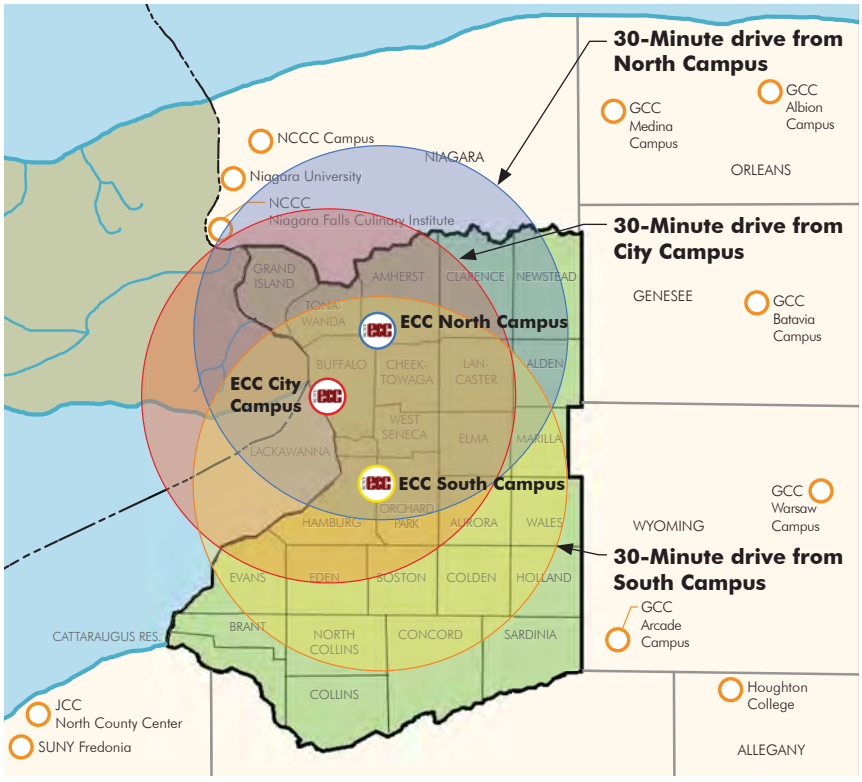


Campus Locations and Program Locations

The distance students must travel is always a concern when dealing with multi-campus colleges. Roughly 65 percent of all students taking courses at ECC are enrolled in Liberal Arts, Business, Criminal Justice, or Physical Education Studies programs or are non-matriculated students. These programs will continue to be available at all three campuses so they are readily accessible to all ECC students. The consolidation of other programs may result in some students traveling to an ECC campus that is not the closest one to their home, but students do that now, as was discussed in the Students and Programs section. The map and tables shown in Figure 4.18 illustrate the distance between the campuses in terms of miles and travel time. The diameter of the colored circles represents a 30-minute drive from each campus.

All three ECC campuses are within a maximum 25-minute drive time of each other and all are served by public transit buses. The ECC Circulator bus route between the North and South Campuses takes approximately one hour because it goes by way of the City Campus. If it becomes necessary in the future, the College could consider adding a direct Circulator route between the North and South Campuses.

Figure 4.18 - 30-Minute Drive Distances from ECC Cmpuses



Driving Minutes	City Campus	North Campus	South Campus
City Campus	0	19	17
North Campus	19	0	25
South Campus	17	25	0

ECC Circulator Minutes	City Campus	North Campus	South Campus
City Campus	0	25	30
North Campus	25	0	62
South Campus	30	62	0

Erie County's Office of Geographic Information Services prepared maps that identify where students enrolled in specific programs live. Maps were prepared for the following programs:

- Baking and Pastry Arts (City), Culinary Arts (City and North), and Hotel Restaurant Management (North)
- Building Management & Maintenance (City)
- CNC Precision Machining (North)
- Radiation Therapy Technology (City)
- Dental Assisting (North), Dental Hygiene (North), and Dental Laboratory Technology (South) Industrial Technology (North)
- Emergency Medical Technology and Emergency Medical Services Provider (South)
- Energy Utility Technology (North)
- Emergency Medical Technology and Emergency Medical Services Provider (South)
- Industrial Technology (North)

As the maps in Figures 4.19 through 4.26 indicate, students will travel to the campus that has the programs they want. Each symbol on the maps indicates the residence of one student.[15]

Roughly 75 percent of all ECC students attend the North and City Campuses, combined. Most municipalities in Erie County lost population between 2000-2010. However, Amherst, Clarence, and Lancaster were the Erie County municipalities that grew the most during that period.[16] Some modest growth is expected in a few of the northern municipalities. Locating the STEM Building at North would serve the majority of ECC students and may attract additional students who might also be considering Niagara County Community College.

Of the 1,834 Erie County residents who chose to attend NCCC in 2012, 23.3 percent were enrolled in Liberal Arts programs that are also offered at ECC. In fact, nine out of ten of the NCCC programs that attracted the highest number of Erie County students are also offered at ECC. The reason for this out migration of students has not been studied officially, but anecdotal comments from students and faculty indicate it may have something to do with ECC's facilities and the fact students think the North Campus feels more like a high school and not a college.

15 Data Source: ECC F2012 Enrollment List. Maps generated by Erie County GIS.
16 Data Source: U.S. Census Bureau. Amherst gained 5,856 people. Clarence gained 4,550 people. Lancaster gained 2,585 people.

Figure 4.19 Residences of Students Enrolled in Baking and Pastry Arts, Culinary Arts, and Hotel Restaurant Management

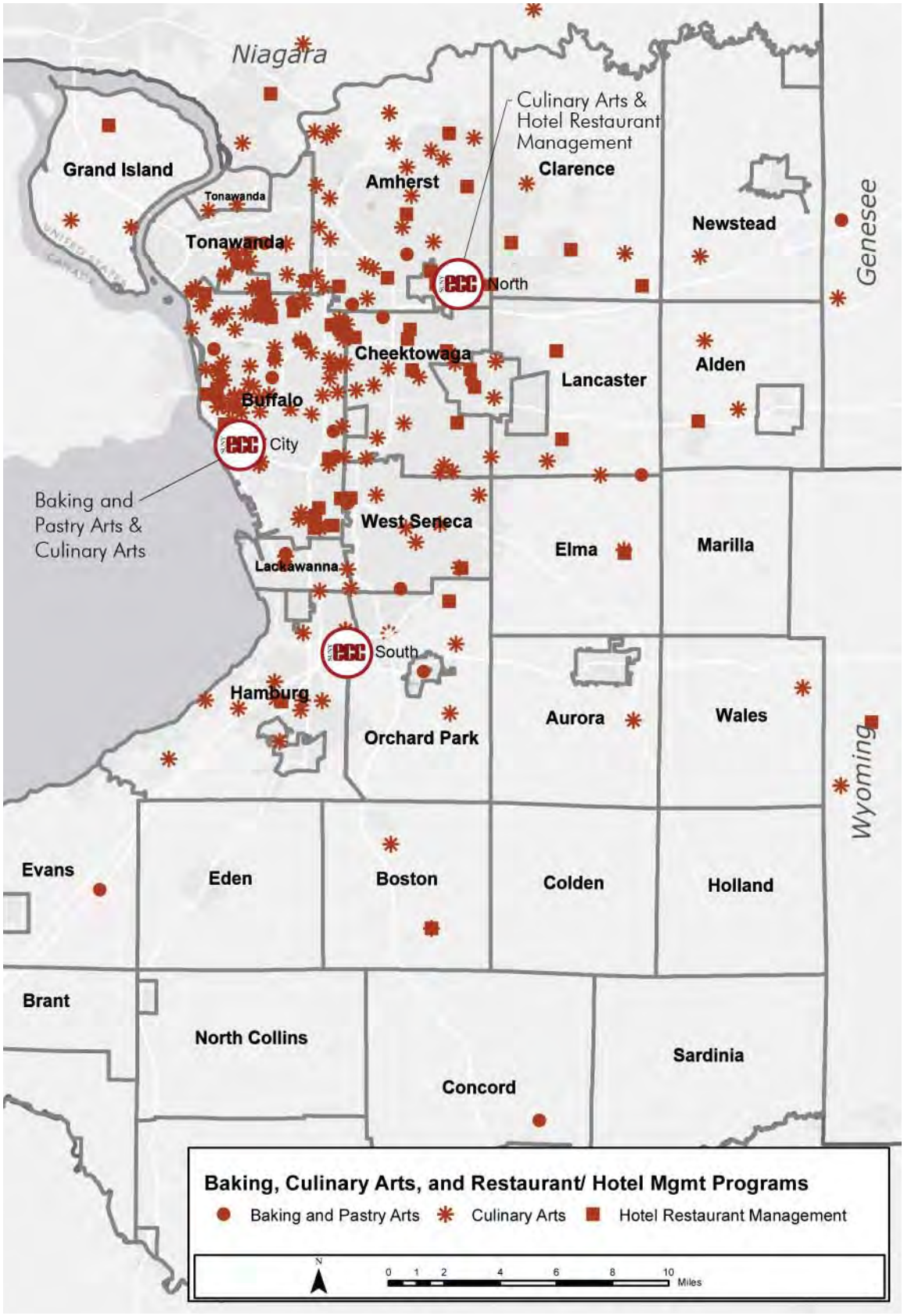


Figure 4.20 Residences of Students Enrolled in Building Management and Maintenance

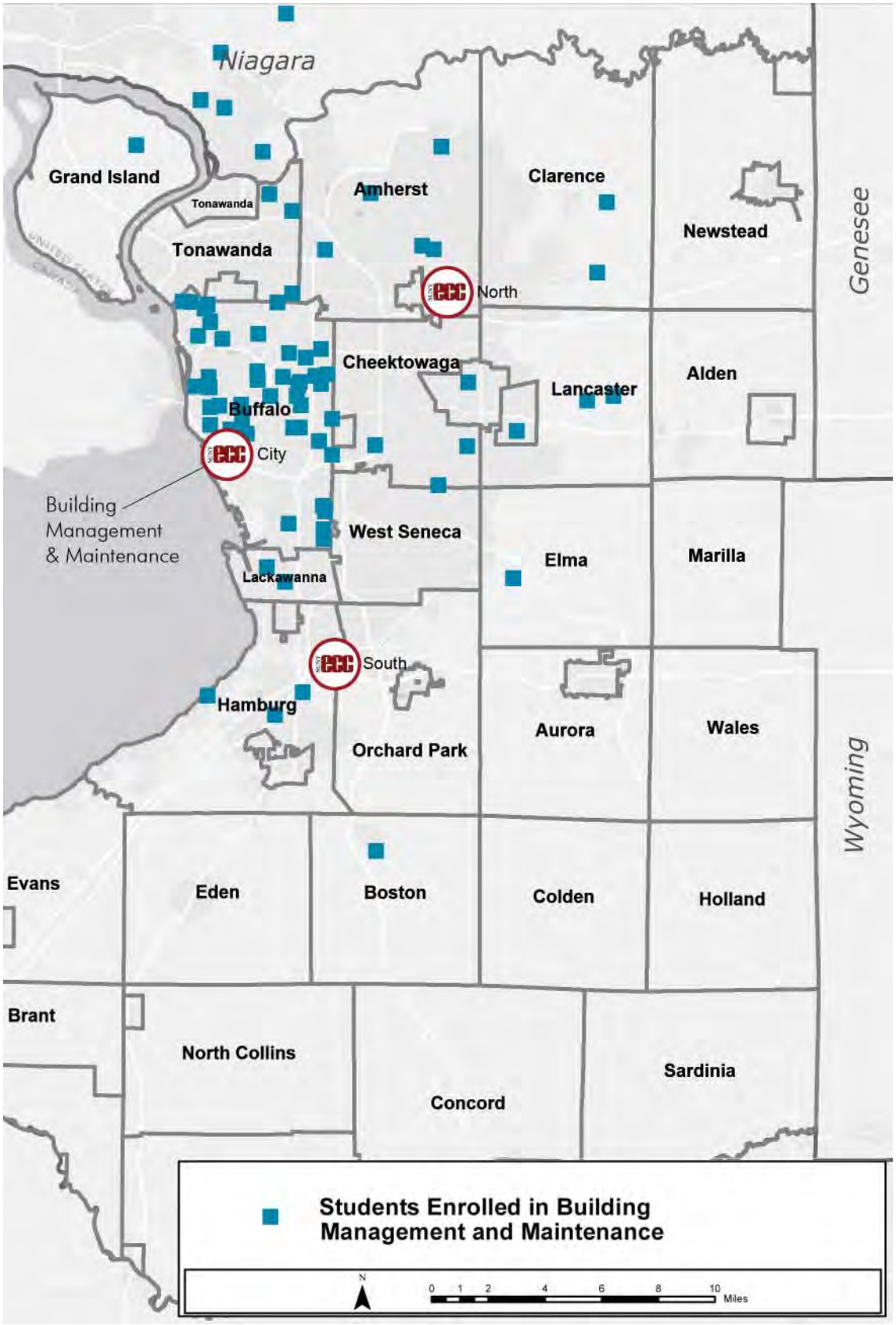


Figure 4.21 Residences of Students Enrolled in CNC Precision Machining

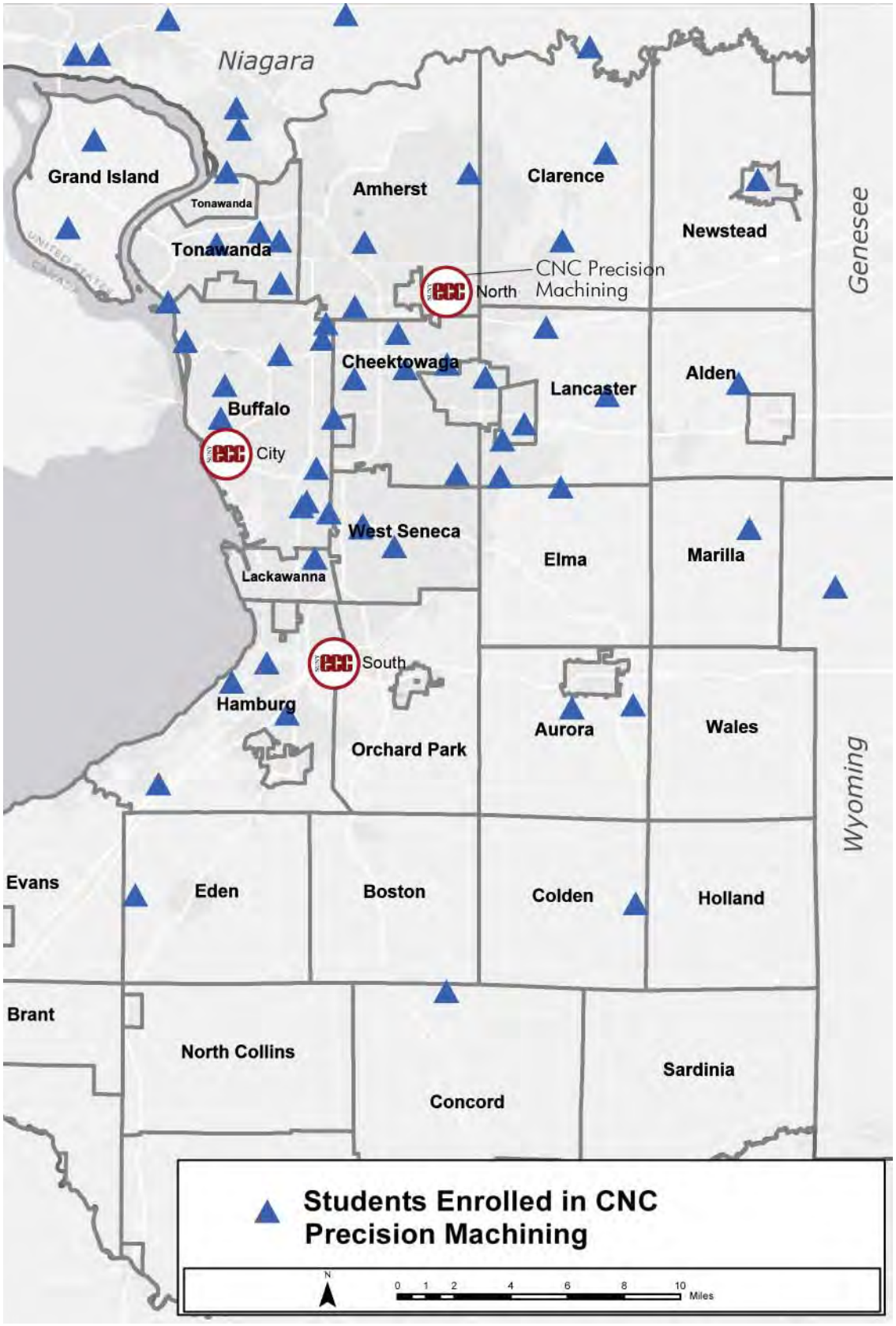


Figure 4.22 Residences of Students Enrolled in Radiation Therapy Technology

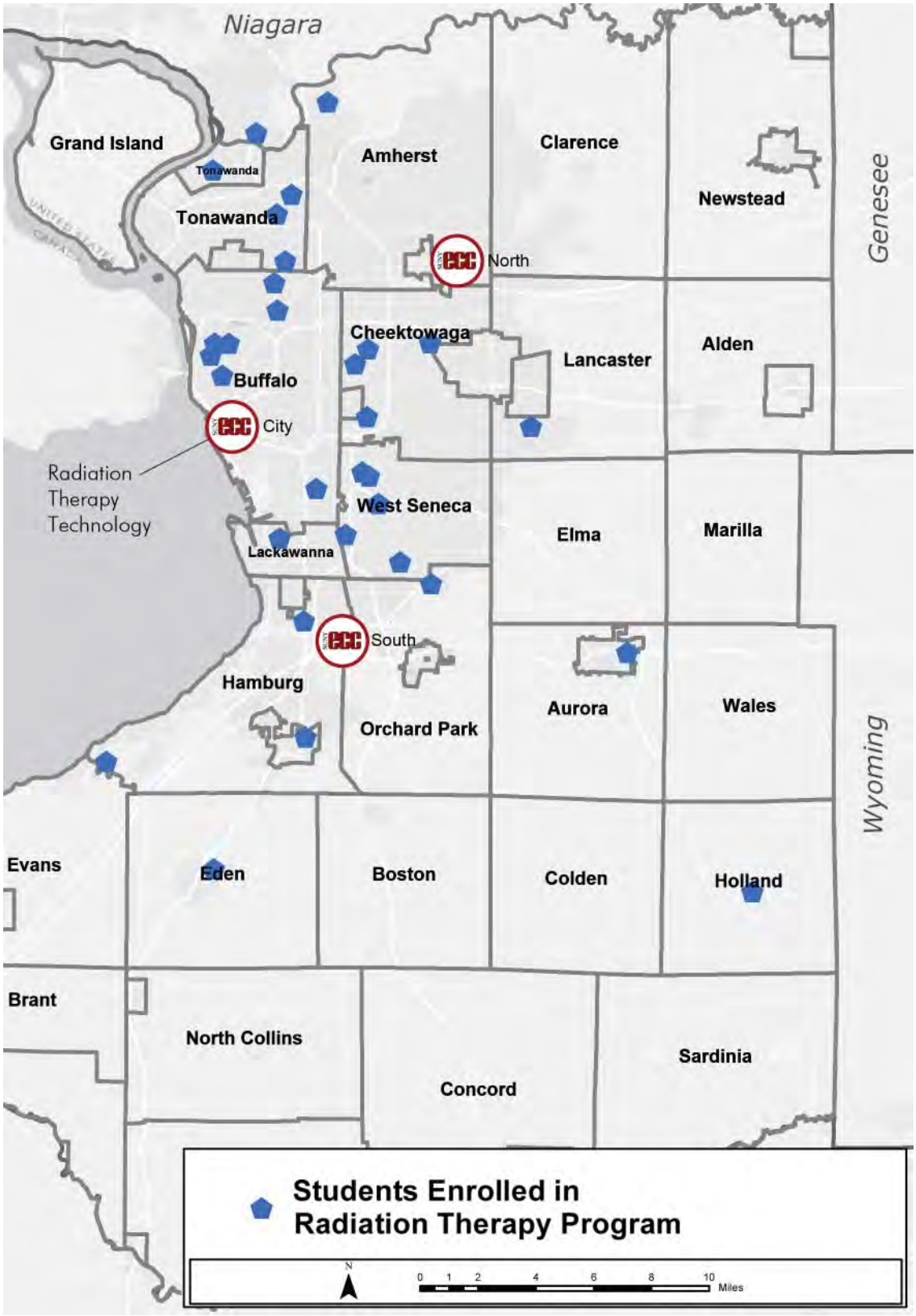


Figure 4.23 Residences of Students Enrolled in Dental Programs

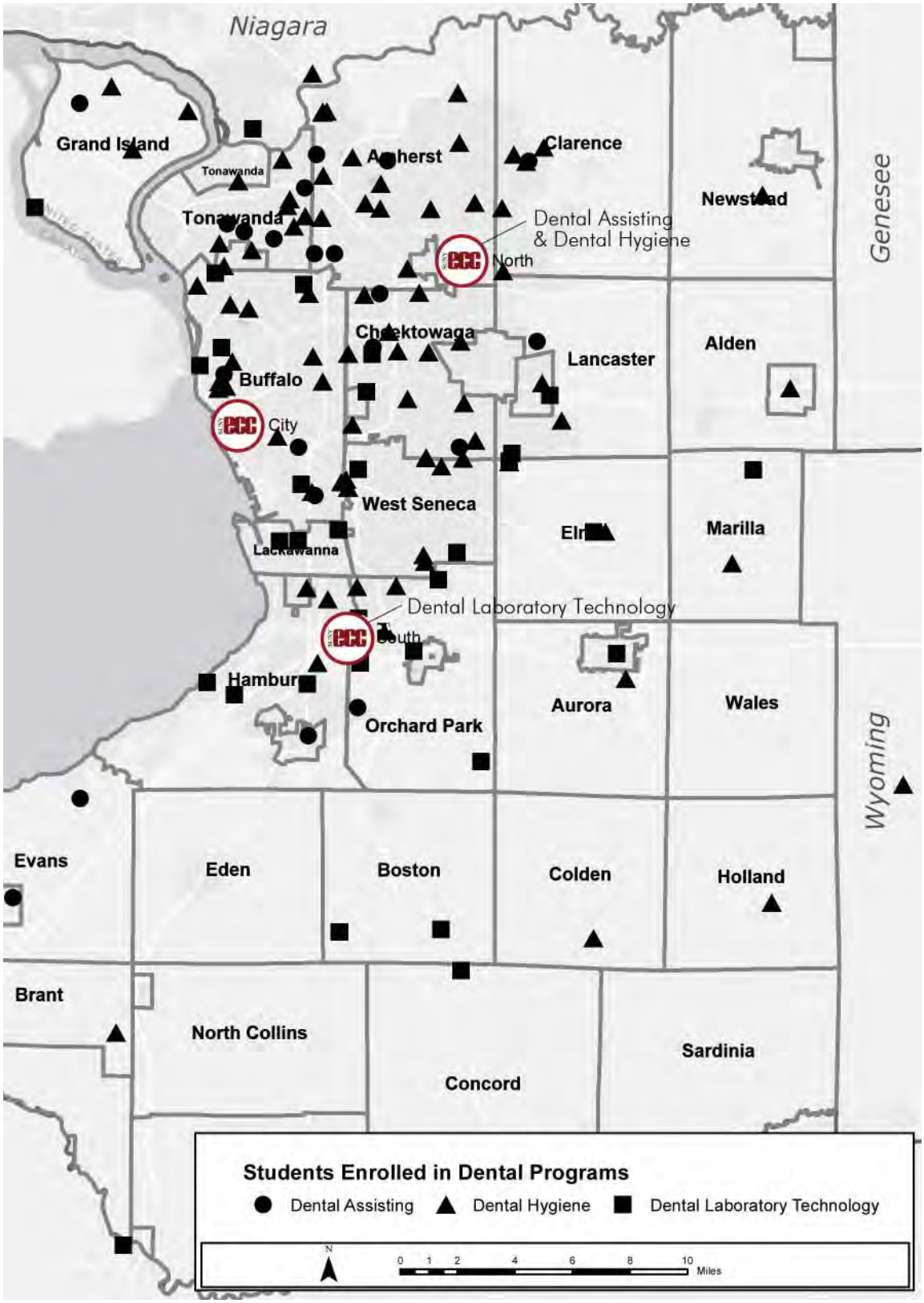


Figure 4.24 Residences of Students Enrolled in Emergency Medical Services/ Technology

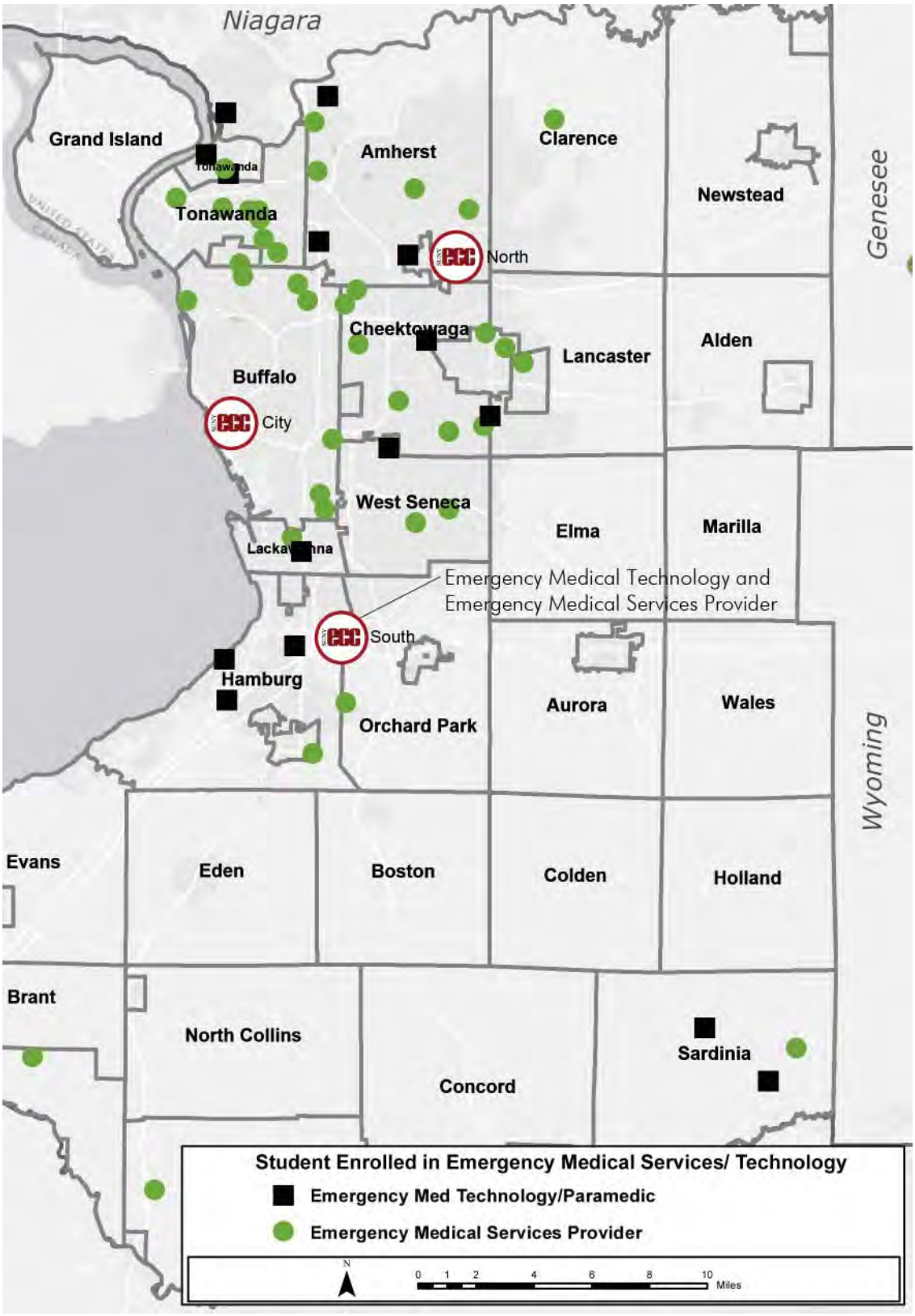


Figure 4.25 Residences of Students Enrolled in Energy Utility Certificate

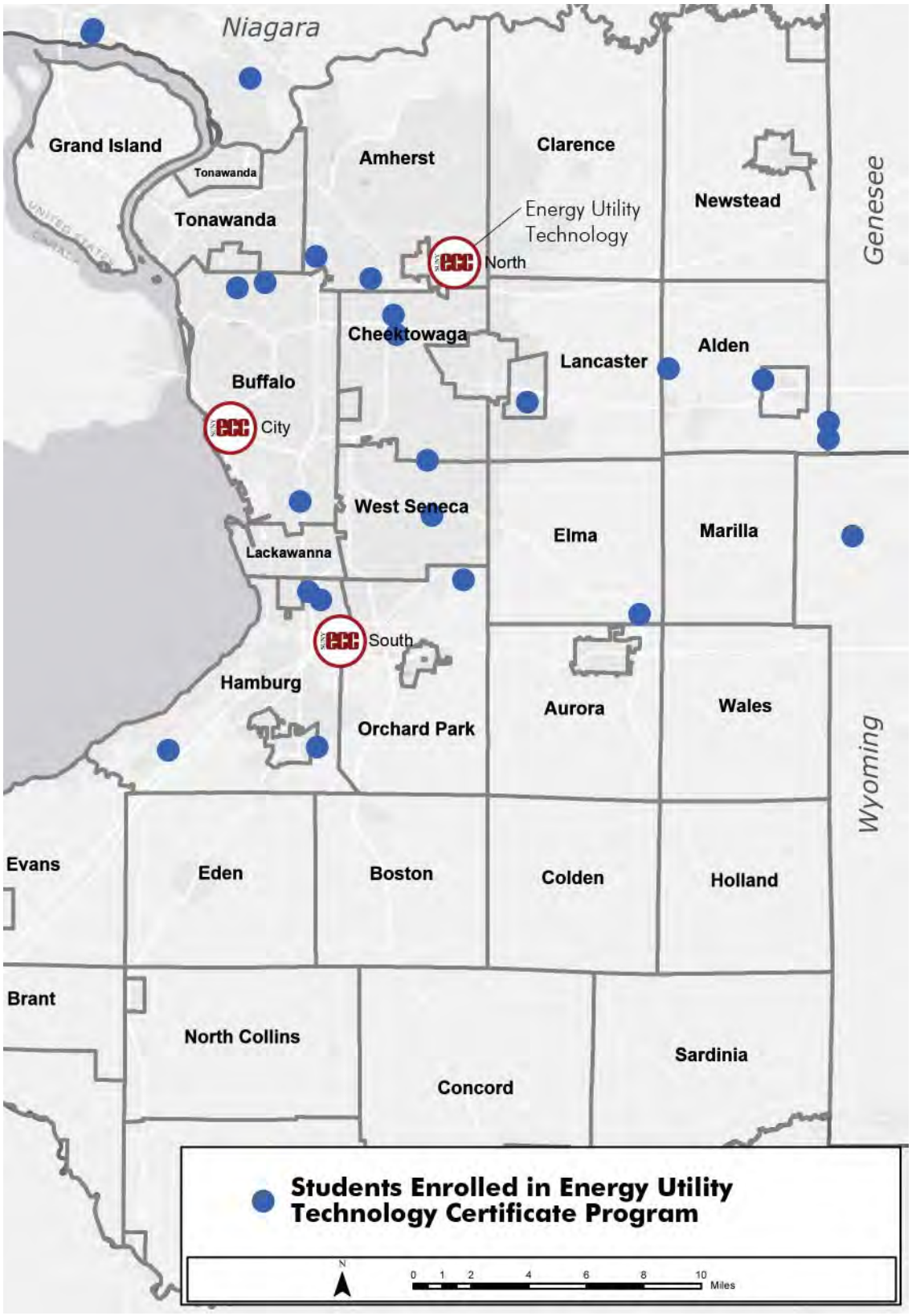
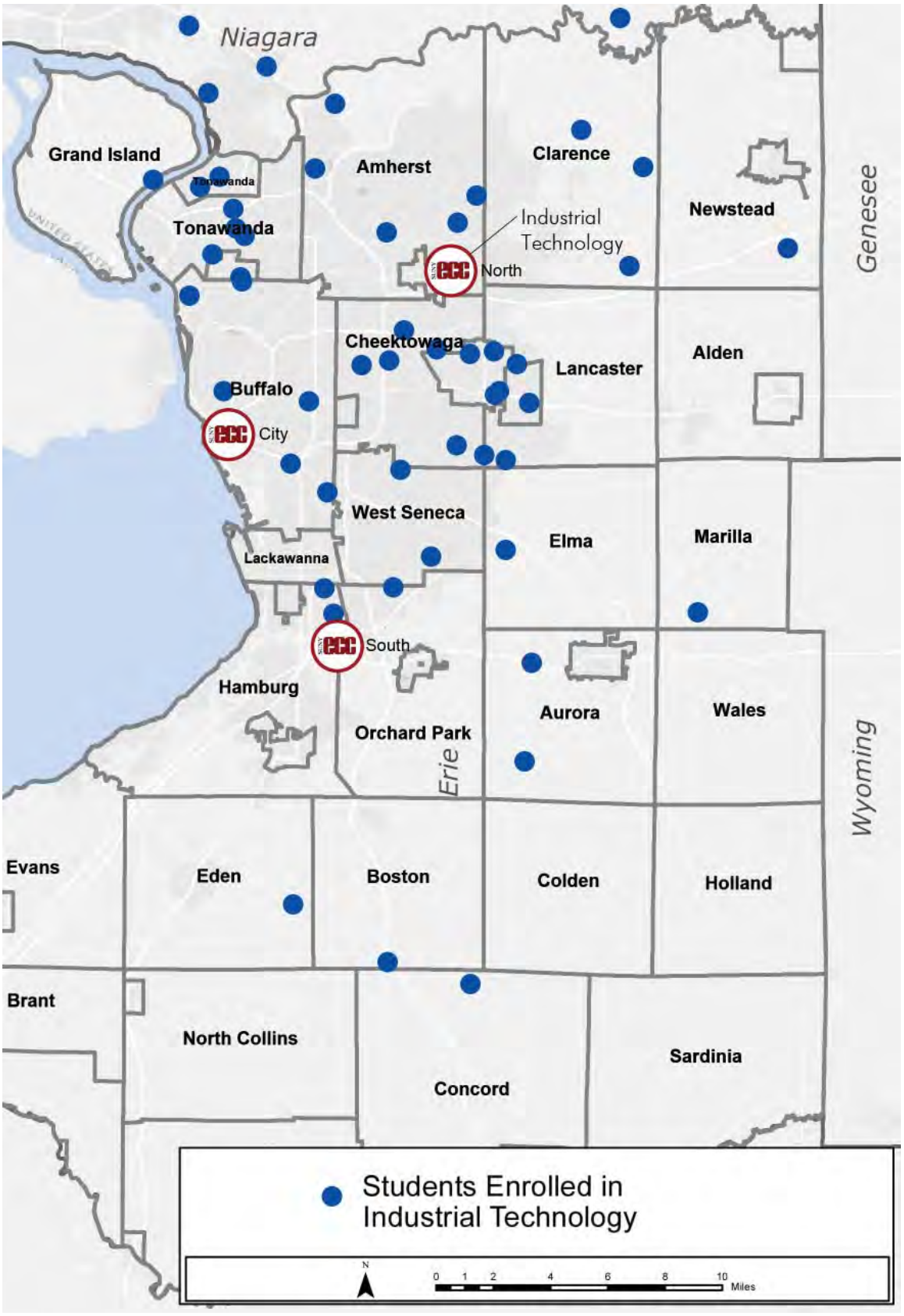


Figure 4.26 Residences of Students Enrolled in Industrial Technology



Alignment of Erie Community College Programs with Regional Workforce Needs 5

Higher Education's Role in Preparing the Workforce

The demand for workers with postsecondary qualifications is tied more closely to occupations and the skills they require than to specific industries.[1] This is an important distinction as we shift the discussion from growing industry clusters in the Buffalo Niagara region to the educational programs that are needed to provide workers for those clusters.

Occupations have similar educational requirements regardless of the industry they are in. For example, accountants perform comparable tasks whether they are working for a hospital or an advanced manufacturing company – and the training required to do the work is basically the same. Industries, on the other hand, are made up of all kinds of occupations, some that demand college degrees and some that do not. For that reason, it is often difficult to align the workforce needs of industry clusters with specific educational programs. In the advanced manufacturing cluster, for example, workers with advanced degrees in Chemical Engineering are needed, but so are workers with certificates and/or Associate's degrees in skilled production occupations, such as precision machinists and industrial repair technicians.

Georgetown University's Center on Education and the Workforce divides occupations into the following nine major clusters, which range from blue collar occupations to the Science, Technology, Engineering, and Mathematics (STEM) occupations.

- Healthcare Professional and Technical
- Education
- STEM
- Community Services and Arts
- Managerial and Professional Office
- Healthcare Support
- Sales and Office Support
- Food and Personal Services
- Blue Collar

1 Anthony P. Carnevale, Nicole Smith, Jeff Strohl; Help Wanted: Projections of Jobs and Education Requirements through 2018, June 2010, Georgetown University Center on Education and the Workforce. Retrieved from http://www9.georgetown.edu/grad/gppi/hpi/cew/pdfs/HelpWanted.ExecutiveSummary.pdf

Occupations within given categories can vary in terms of salary and the level of educational attainment that is required. For example, the Healthcare Professional and Technical category includes doctors and health technologists. The level of education and the anticipated remuneration for the two occupations vary significantly.

The nine categories are described below to provide more insight into the variation that exists within each group.

Healthcare Professional and Technical: Occupations in this category include doctors, registered nurses, and health technologists.

Education: This category includes a wide variety of occupations, but is dominated by preschool and K-16 teachers.

STEM: Occupations are broadly represented in all industries, but are most concentrated in the professional, business services, and information services industries. The category includes occupations in the fields of Computer and Mathematical Science, Architects and Technicians, Engineers and Technicians, Life and Physical Sciences Occupations, and Social Sciences Occupations.

Community Services and Arts: This includes occupations in the arts, design, entertainment, sports, and media occupations, as well as community and social services.

Managerial and Professional Office: This includes management and business operations specialist occupations, financial specialist occupations, such as accountants and financial advisors, and legal occupations, such as paralegals, lawyers, and judges.

Healthcare Support: Occupations such as nursing aides, orderlies, and home health aides.

Sales and Office Support: Includes sales occupations and office and administrative support occupations, such as secretaries, bookkeepers, and customer service representatives.

Food and Personal Services: Includes food preparation and serving occupations, personal care occupations, cleaning and maintenance occupations, as well as protective service occupations, such as firefighters, police officers, correctional officers, and security guards.

Blue Collar: Includes occupations in construction, transportation, farming, installation, maintenance, and production, such as machinists, welders and inspectors.

Figure 5.1 illustrates the projected job opportunities, nationally in 2018, for workers in eight occupational categories based on level of education. (Jobs in the Healthcare Professional and Technical and Healthcare Support categories have been aggregated.) The majority of jobs that will be available for those without a postsecondary education are in the Food and Personal Services, Sales and Office Support, and Blue Collar categories. These jobs will be at the lower end of the salary scale within these occupational

categories. For example, day laborers would fit into the lower bar of Blue Collar workers, while precision machinists are captured in the Blue Collar segment of the upper bar. It will be the knowledge-based jobs associated with the upper bar that will do the most to spur economic growth in the region.

A primary distinction between the two bars, besides level of education, is pay scale. Individuals without a postsecondary education can usually expect to earn less than those that have acquired additional training, even if just at the certificate level. It is also important to note the number of jobs that will be available - roughly 60 million jobs for those with no college experience vs. approximately 100 million jobs for workers with a postsecondary education.

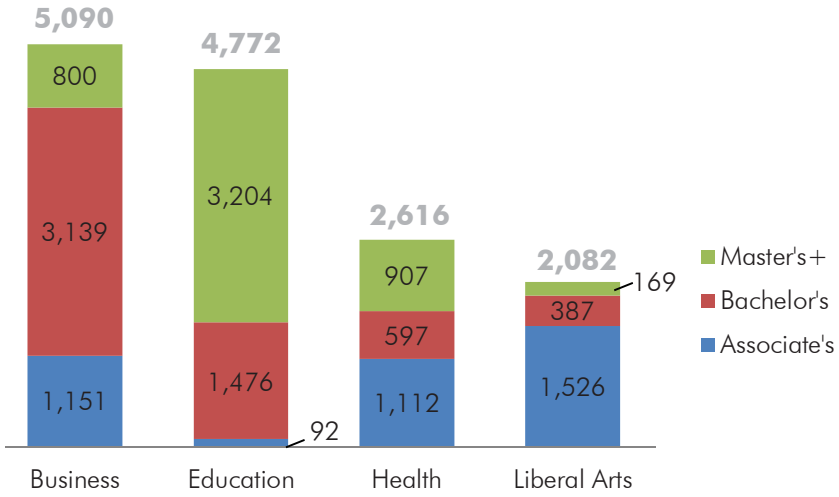
The Buffalo Niagara economy currently mirrors that of the nation fairly well, so a similar breakdown of job opportunities can be expected.

Figure 5.1: National Opportunities for Workers in 2018 based on Education[2]

The 21 higher education institutions in the region produce approximately 26,000 graduates each year. Over half of all college degrees granted by Buffalo Niagara's colleges and universities in 2007-2008 were in four fields of study: Business, Education, Health, and Liberal Arts, as shown in Figure 5.2. In order to provide the type of skilled workers needed to support growth in the Advanced Manufacturing and Health and Life Sciences sectors, more students need to be encouraged to go into STEM and Blue Collar (production-machinists, welders, and inspectors) occupations.

2 ibid.

Figure 5.2: College Degrees Granted by Buffalo Niagara's 21 Higher Education Institutions, Top Four Fields of Study, by Degree Type, 2007-2008

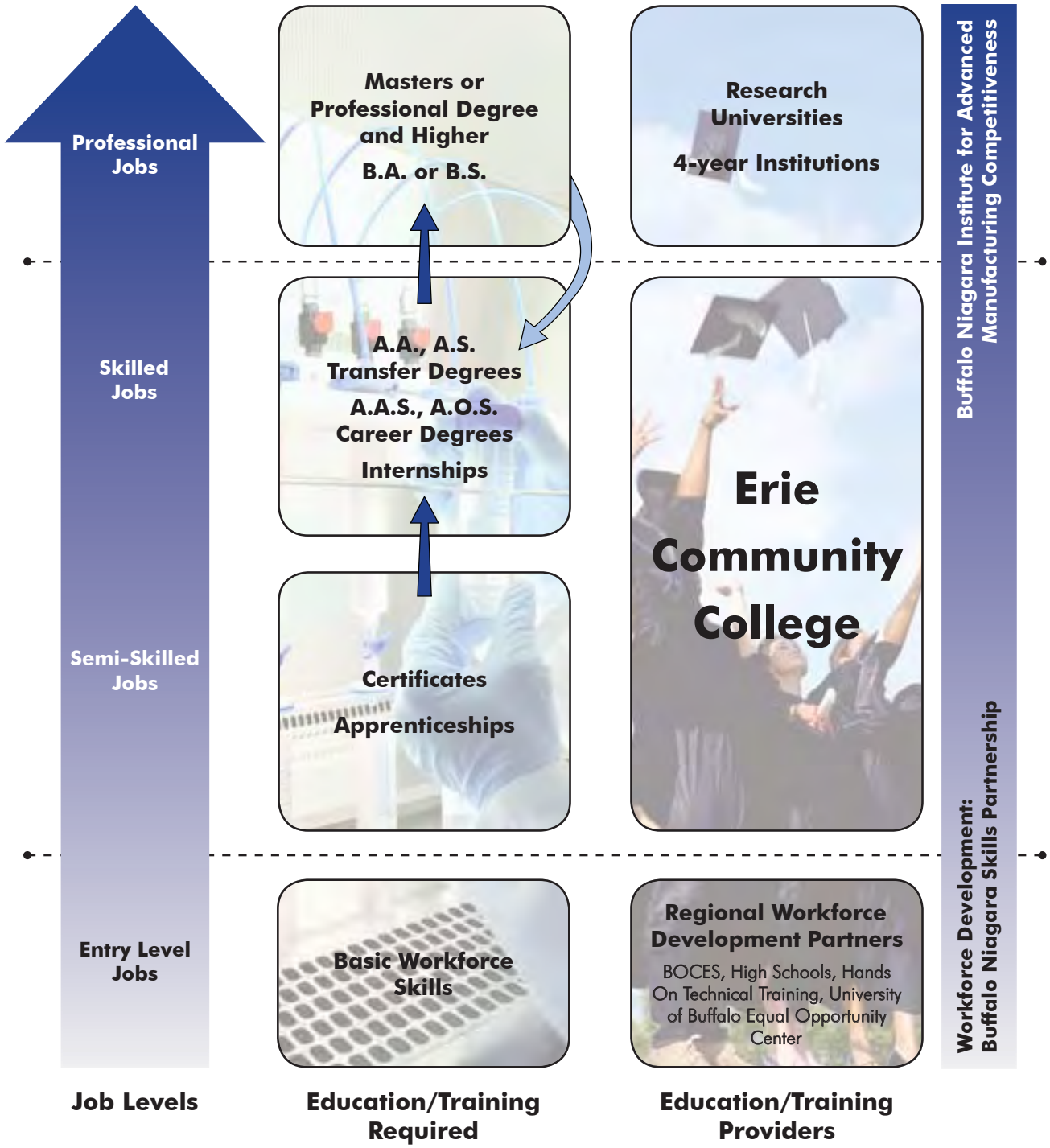


Regional Workforce Development Needs: ECC's Role

Community colleges play an important role in the training and education of the nation's workforce. In addition, they have historically led the nation in providing pathways for minority and low-income students to obtain a college education. For the last 67 years, ECC has done an excellent job of providing the region's citizens with opportunities to advance their careers and life goals. That said, no institution can be everything to everyone. Before an analysis of ECC's effectiveness at aligning its programs with the region's workforce needs can be addressed, an understanding of the role all institutions of higher education play in regional workforce development is necessary.

Figure 5.3 identifies ECC's role within the Buffalo Niagara region's workforce development landscape. The arrow on the left illustrates the continuum from entry level to professional level jobs. The four boxes directly right of that arrow represent the education/training/skills level necessary to qualify for the associated job type. Looking further to the right, the three boxes identify the type of education/training provider associated with the level of training required for each job type.

Figure 5.3: ECC's Role in Regional Workforce Advancement



The bar on the far right signifies the continuum from the Buffalo Niagara Skills Partnership proposed in the Buffalo Billion Investment Development Plan, to the Buffalo Niagara Institute for Advanced Manufacturing Competitiveness, also identified in the Buffalo Billion Plan. The former focuses on aligning education and training programs with the skills and career paths required for high-demand jobs, training entry-level workers and rapidly up-skilling existing workers, and encouraging and providing

support to students and workers to develop employer-demanded skills at all stages of the skills pipeline. The latter would be a commercially viable facility that conducts applied research and development to spur the growth of the region's manufacturers while providing mid-career workers hands-on instruction to learn tasks demanded by advanced manufacturing processes.

ECC offers individuals multiple pathways to develop the knowledge and skills they need to take their place in the regional workforce.

- Certificate programs train individuals for entry level and semi-skilled jobs. These programs work well for those without previous postsecondary educational experience, as well as those who have been in the workforce but need to learn new skills. Certificate programs often attract individuals who already have a degree but find they need to train for a new career path.
- Stackable certificate programs, often coupled with apprenticeships, allow students to develop a higher level of skill in a particular field, assuring potential employers that they have the qualifications for skilled jobs. Often these programs offer national certification through third party groups, such as the National Institute for Metalworking Skills (NIMS) certification for machinists, CNC operators, and tool and die makers.
- The College helps students find internship opportunities with local industries to couple classroom education with hands-on experience.
- Pre-collegiate courses help students gain the academic skills they need to proceed with their education. Development of an English as a Second Language (ESL) program will become more important as the population in Buffalo transitions to one with a high percentage of immigrant households. This transition is already underway.
- A.A.S. and A.O.S. degrees prepare students for jobs that pay a living wage and lead to career advancement opportunities.
- A.A. and A.S. degrees position students to transfer to four-year institutions in order to pursue a four-year degree and beyond.

Generally, the training of basic workforce skills for entry level jobs falls to other institutions, such as high schools, BOCES, and community and service groups. The region's four-year institutions and research universities are responsible for educating professionals and those that will eventually be leaders in their occupations. However, it appears that a paradigm shift may be occurring that will broaden the role of community colleges related to the attainment of a Bachelor's degree and beyond. Much has been written about students at four-year colleges accumulating mountains of debt by the time they graduate. To partially offset the spiraling costs of higher education, many savvy students have realized that they can spend their first two years at a community college, enjoying personalized attention that can be difficult to find at larger institutions, then transfer to a four-year school, graduating with the same degree at a much lower cost. The availability of student housing at community colleges has facilitated this trend.

Soft Skills Sought After:

1. ***Communication***
2. ***Enthusiasm and Attitude***
3. ***Teamwork***
4. ***Networking***
5. ***Problem Solving and Critical Thinking***
6. ***Professionalism***

Retrieved from http://www.dol.gov/odep/topics/youth/softskills/

Value of the Transfer Degree

In fall 2012, 37.3 percent of ECC students were pursuing a Liberal Arts degree, many with a specialty, with the intent of transferring to a four-year institution. Many students enter ECC without a defined career path. The two-year Liberal Arts degree provides a solid base for transfer to many different degrees at a four-year institution without the loss of college credit or time to degree. The two-year Liberal Arts degrees offered at ECC parallel the first two years of a four-year program at both a reduced cost to the student and with faculty who are dedicated to the success of their students. Four-year SUNY colleges accept the transfer students with junior status, which allows them to progress to graduation with a Baccalaureate degree in two years of full-time study. Math or science A.S. degrees are particularly beneficial for transfer to STEM four-year degrees.

ECC Liberal Arts Division Programs

Communication and Media Arts, A.S.

Human Services, Certificate

Liberal Arts & Science - Humanities , A.A.

Liberal Arts & Sciences - Childhood Education 1-6 , A.A.

Liberal Arts & Sciences - General Studies, A.S.

Liberal Arts & Sciences - Math, A.S.

Liberal Arts & Sciences - Science, A.S.

Liberal Arts & Sciences - Social Science, A.A.

Teaching Assistant, Certificate

Note: The following Liberal Arts Division degree programs are also listed under STEM-Related Programs.

- Computer Science - A.S.
- Engineering Science - A.S.
- Environmental Science - A.S.
- Environmental Technology Geoscience - A.A.S.

Students studying liberal arts acquire a strong background in math and science, preparing them for transfer into science, technology, engineering, and math (STEM) programs. Many of ECC's students graduating from math and science liberal arts programs who go on to four-year colleges and universities will eventually become the scientists, engineers, managers, and technicians the region is counting on to lead the area's economic recovery. Other students who concentrate in humanities, education, social science, the arts and general studies have the underpinnings for careers in management, community services and arts, sales and office support, personal services, education, tourism, banking, real estate, human services, drama, music, economics, government, and more.

In addition to ECC's strong Liberal Arts offerings, the College's current academic program array provides students with a variety of educational pathways to careers in Engineering and Technologies (STEM programs), the Health Sciences, and Business and Public Service.

Alignment of ECC's Academic Programs with Regional Workforce Needs

ECC works diligently to maintain an alignment between the College's academic and workforce development programs and the workforce needs of the region's business and industry. The College maintains open lines of communication with industry leaders, asking them about the types of workers they need and skills they require. A good example of this is the Machining/Manufacturing Alliance (MMA) between ECC and machining and manufacturing companies in Western New York.

Do Erie Community College programs effectively address the workforce development needs of the region?

The MMA helps prepare individuals for employment in the precision machining and manufacturing industry. The Alliance offers a 15-week training sequence at ECC in CNC Machining and Programming Industrial Technology that prepares students for entry-level employment in the precision metalworking industry. The sequence provides 12 college credits of hands-on-skills training that can be applied toward a certificate in Precision Machining and/or toward an A.O.S. degree in Industrial Technology. The MMA also offers an internship program that places students with Alliance members. As of fall 2012, there were 35 MMA partners. The program has a 100 percent placement record and the program has had to turn students away due to the lack of equipment, space, and faculty. The Alliance is actively looking to grow the program and ECC recently received a grant for additional equipment that will allow them to accept twice the number of students into the program. The College also recently hired another full-time faculty member to teach Industrial Engineering.

ECC has programs in place that can be improved and expanded to prepare students for jobs in the three industry sectors targeted in the Buffalo Billion Investment Development Plan: Advanced Manufacturing, Health and Life Sciences, and Tourism. The following assessment of ECC's offerings focuses on program-specific alignment with regional workforce advancement needs.

Figure 5.4 illustrates how ECC Fall 2012 headcount data compare with the New York State Department of Labor (NYSDOL) projections for jobs available in 2020.[3] NYSDOL does not consider regional economic development efforts, so their projections are based on historic trends. In addition, the Standard Occupational Classification (SOC) system groups occupations into broad categories that do not always reflect the changing nature of job types in industries such as manufacturing or health and life sciences.

In Figure 5.4, the bottom bar in each SOC category illustrates ECC enrollment in related academic programs in F2012. The top bar illustrates the NYSDOL projected annual jobs available in 2010-2020. The difference between the NYSDOL projections and ECC enrollment reveals which programs could be better aligned with industry needs.

In some SOC categories, the projected jobs available exceed ECC enrollment. However, graduates of other colleges and experienced

3 Sources: ECC Fall 2012 Headcount and AAFTE; NYS DOL 2010-2020 Long-Term Occupational Projections for Western NY; US DOL Bureau of Labor Statistics List of SOC Major Codes

workers are also competing for these jobs. In other SOC categories, such as protective service occupations, the number of ECC students enrolled exceeds the job projections.

Management, Business and Financial Operations, Office and Administrative Support

These occupational classifications represent opportunity for ECC students because jobs in these fields offer chances for advancement and good pay. Based on industry development strategies for the Buffalo Niagara MSA, specialized management and back-office professions will be in demand to support emerging industries.

Computer and Math, Architecture and Engineering

Currently ECC has more students enrolled in these programs than jobs projected to be available by NYSDOL. These occupational classifications include STEM careers, so they are likely to grow (in targeted sectors) if industry development efforts are successful.

Life, Physical, and Social Sciences

While only modest opportunity is shown in Figure 5.4, if industry advancement efforts are successful this occupation classification will see substantial growth. In addition, the aging population and increased demand for medical innovation will drive consistent job availability in these occupations.

Community and Social Services Occupations

Occupations in this category could increase as a result of the aging baby boom generation's need for assistance In addition, there will be replacement jobs available due to retirement. There more jobs projected in this category than students enrolled in related ECC programs.

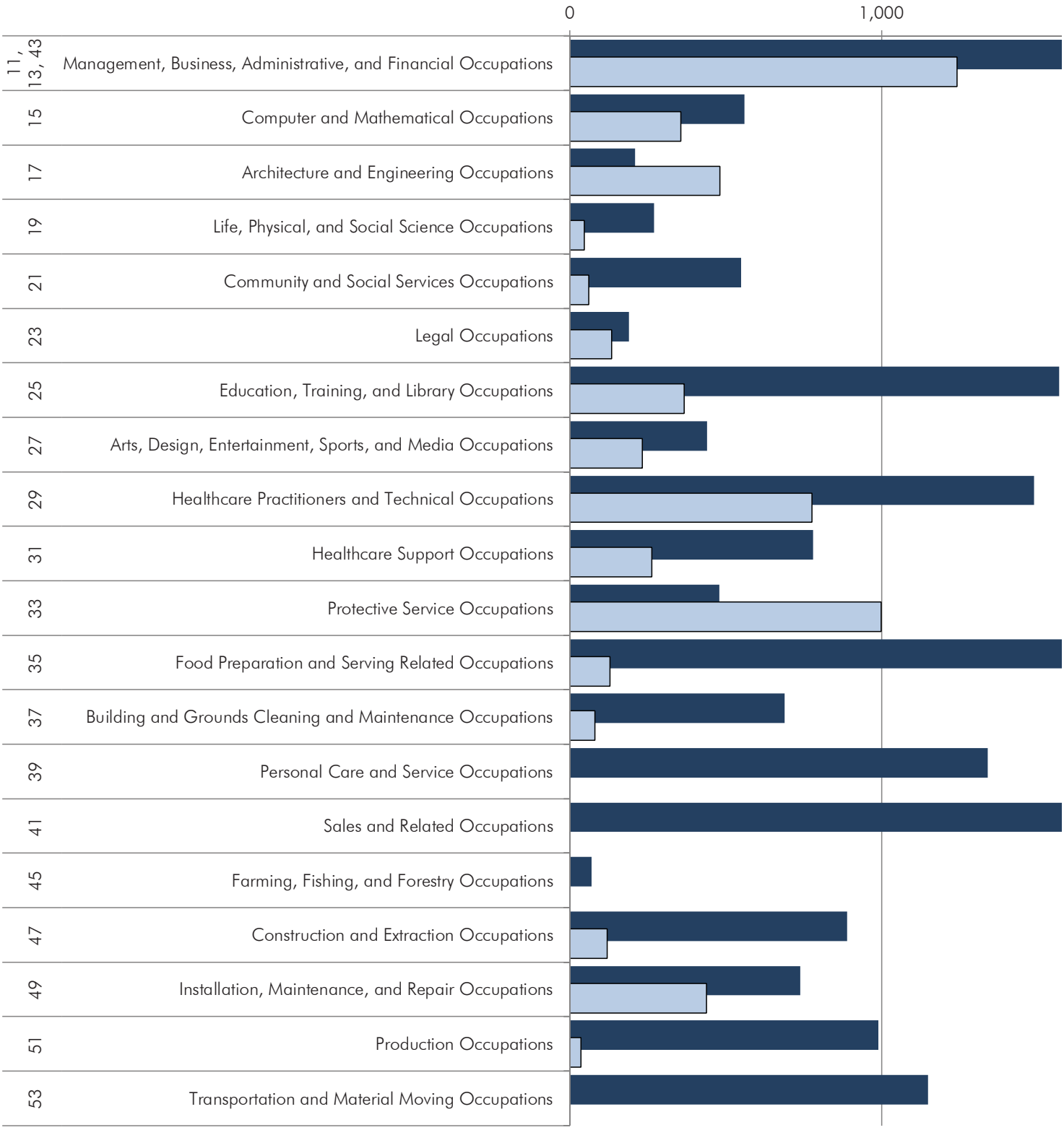
Education, Training, and Library

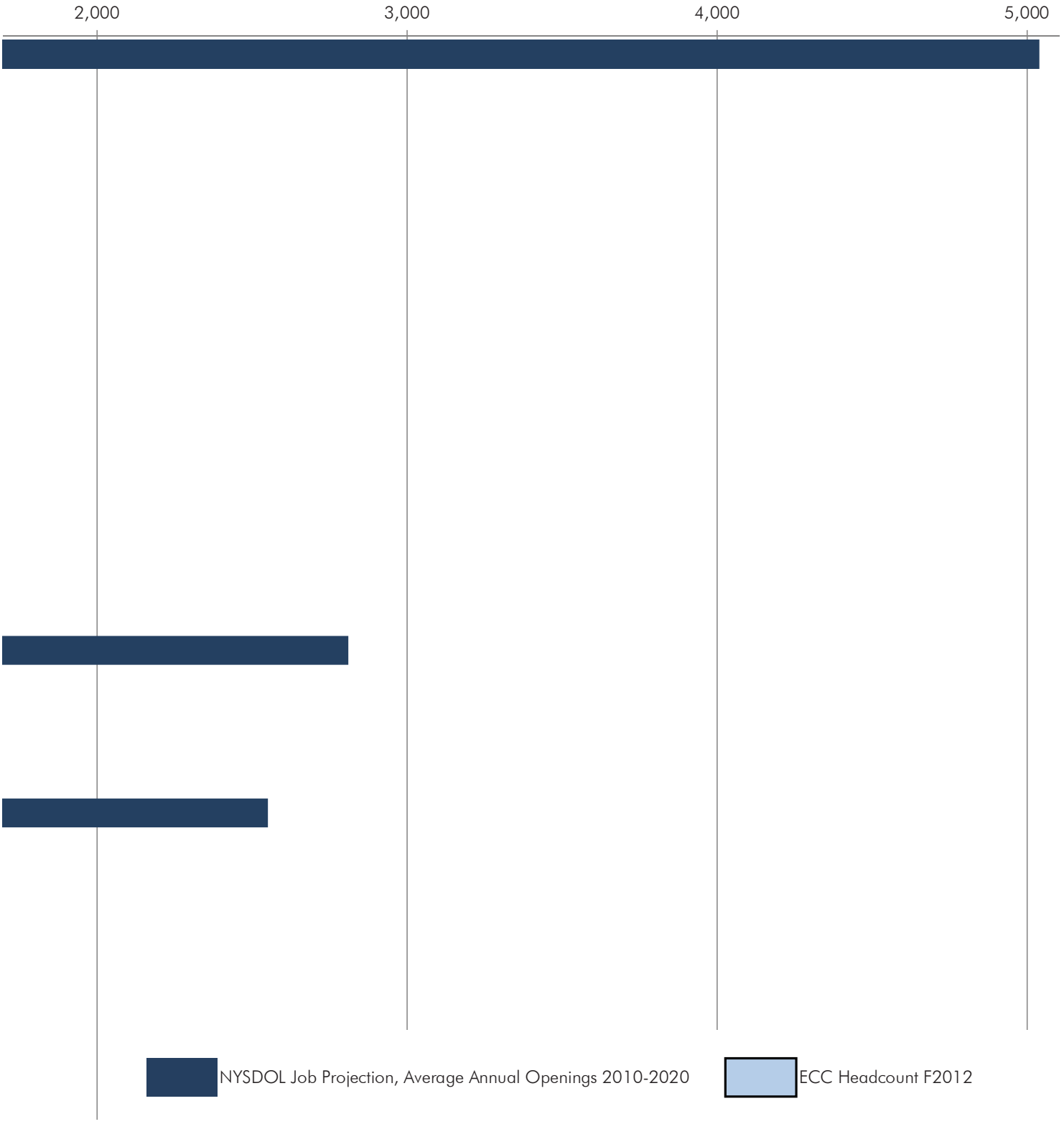
This occupational classification appears to show quite a bit of opportunity. However, specific occupations in this category, such as librarians and elementary school teachers, do not anticipate sufficient growth to employ all currently enrolled students in WNY colleges.

Healthcare Practitioners and Technical Occupations, Healthcare Support Occupations

Healthcare Support occupations provide specialized labor to support Healthcare Practitioner and Technical occupations. Employees that start in Healthcare Support could continue their education to qualify for jobs in Healthcare Practitioner and Technical occupations. Industry development efforts could drive growth to exceed NYSDOL projections. In addition, the aging population and increased demand for healthcare will drive consistent job availability in these occupations.

Figure 5.4 - Projected Job Availability and ECC Enrollment in Related Programs




2,000
3,000
4,000
5,000
NYSDOL Job Projection, Average Annual Openings 2010-2020
ECC Headcount F2012

Food Service, Personal Care and Service, and Sales

There will be many jobs available in service and sales. Many of these will grow in proportion to the growth in tourism. These occupations tend to be low-wage, and advancement in these jobs will still require skills in communication, teamwork, networking, problem solving and critical thinking, and professionalism.

Production Occupations

Traditional jobs in manufacturing are part of SOC 51. NYSDOL projections suggest that the manufacturing industry will decline. Many of the jobs projected to be available in this category are replacement jobs, as manufacturing is expected to lose a large number of employees when Baby Boomers retire. However, advanced manufacturing is poised for growth due to regional economic development efforts. There is also a great deal of crossover between advanced manufacturing and other classifications, such as SOC 19 (Life, Physical, and Social Sciences) and SOC 31 (Healthcare Support). Traditional jobs in manufacturing are included in SOC 51, but they will not necessarily grow in proportion to advanced manufacturing.

Transportation and Material Moving

This diverse SOC category could see growth in proportion to growth in tourism (bus drivers, taxi drivers, pilots, air transportation workers) and advanced manufacturing (logistics-related jobs). ECC does not currently have academic programs or certificates that relate to Transportation and Material Moving.

Legal Occupations; Arts, Design, Entertainment, Sports & Media Occupations; Protective Service Occupations

ECC currently has more students enrolled in protective service related programs than the jobs that are projected to be available. In the Legal Occupations category and the Arts, Design, Entertainment, Sports and Media Occupations category, ECC graduates could be challenged in the job market. Enrollment in ECC programs in these categories is high in proportion to the jobs available. These programs are popular at other regional colleges, as well, and many graduates will be competing for the same positions. Some occupations could grow in proportion to targeted industry growth. For example, certain Arts, Design, Entertainment, Sports, and Media occupations could benefit from increased tourism. Robust efforts to align high school career counseling with targeted industry sectors will help students select the best opportunities for advancement within these occupational classifications. There appears to be opportunity for graduates in Community and Social Services occupations.

Science, Technology, Engineering & Math (STEM)

The definition of STEM-related occupations varies widely, e.g., Life Science Technician, Chemical Technician, Web Developer, Food Scientist, Aerospace Engineer, and Physicist, to name a few. One of the more inclusive lists of STEM professions, developed by the Praxis Strategy Group, consists of 93 occupations that are divided into the following eight categories.[4] The complete list may be found in Appendix A.

- Computer Specialists
- Mathematical Science Occupations
- Engineers
- Drafters, Engineering, and Mapping Technicians
- Life Scientists
- Physical Scientists
- Social Scientists and Related Occupations
- Life, Physical, and Social Science Technicians

It is worth noting that this definition includes technician jobs that typically require two-year degrees, which are often overlooked in the STEM conversation.

As discussed in the *Regional Workforce Needs* section of this report, STEM-related industries in the Advanced Manufacturing and Health and Life Sciences sectors will need an influx of workers to support anticipated regional growth. Georgetown University's Center on Education and the Workforce predicts that by 2018, 92 percent of STEM workers will need a postsecondary education and that 65 percent of STEM job openings will require at least a Bachelor's degree.[5]

The Center indicated that while this reflected the value of a four-year college education and beyond, **not enough attention is being paid to the 35 percent of STEM jobs that will require only a certificate or Associate's degree.** An Associate's degree, or even a certificate, will be able to open doors to opportunities in a wide variety of high-demand occupations.

Individuals with a STEM-based education can work in a variety of businesses and industries, such as professional services, health care, precision manufacturing, advanced materials, and finance and insurance. They can work as health care technicians, teachers, farmers, top-level managers in the private or government sectors, and even writers and artists. According to the U.S. Census Bureau, people with an Associate's degree in a STEM field earned more in 2009 than those with a Bachelor's degree in education or liberal arts.[6] In a knowledge-based economy, a STEM education positions an individual for success in many different industries.

4 The Praxis Strategy Group, a growth strategy firm, has co-written the U.S. Chamber of Commerce's "Enterprising States" report for the last two years.

5 Mangan, K. Community Colleges Respond to Demand for STEM Graduates. (February 2013). *The Chronicle of Higher Education*. Retrieved 13 Feb 2013 from http://chronicle.com/articly/Work-Force-Demand-for-STEM/137231/?cid=cc

6 Koebler, J. (February 2012). STEM Associate's Degree Pays Better Than Liberal Arts Bachelor's. *U.S. News*. Retrieved 4 March 2013 from http://www.usnews.com/news/blogs/stem-education/2012/02/24/stem-associates-degree-pays-better-than-liberal-arts-bachelors

ECC Existing STEM-Related Programs

Architectural Technology Construction Technology, A.A.S.
Biomanufacturing, Certificate
Civil Engineering Technology, A.A.S.
Computer Aided Drafting and Design Technology, A.A.S.
Computer Repair Technology, A.A.S.
Computer Science, A.S.*
Computer Security & Investigations Digital Forensics, Certificate
Construction Management Engineering Technology, A.A.S.
Electrical Engineering Technology, A.A.S.
Electronics, Certificate
Energy Utility Technology, Certificate
Engineering Science, A.S.*
Environmental Science, A.A.S.*
Environmental Technology Geoscience, A.A.S.*
Industrial Technology, A.O.S.
Information Systems Security, Certificate
Information Technology, A.A.S.
Mechanical Engineering Technology, A.A.S.
Telecommunications Technology, A.A.S.
Visual Communication Technology, A.A.S.
Web Page Design, Certificate

*These programs are part of the Liberal Arts division.

Additional Existing Engineering & Technology Division Programs

Autobody Repair, A.A.S.
Automotive Technology, A.A.S.
Building Management & Maintenance, A.O.S.
Building Trades/Residential Light Commercial, Certificate
CNC Precision Machining, Certificate
Green Building Technology, Certificate
Heating, Ventilating, Air Conditioning and Refrigeration, Certificate

Whether earning a STEM-related certificate, an Associate's degree, or transferring to a four-year institution to pursue an advanced STEM degree is the goal, ECC is in a position to help Western New York residents, including minority and low-income students, position themselves for the relative job security and higher wages STEM jobs tend to offer.

Health and Life Sciences

ECC offers 18 certificate and degree programs through its Health Sciences division. Health Science careers are related to the promotion of health, prevention of illness, research, and treatment of injuries, infections and disease. Graduates with an Associate's degree in Health Science programs hold positions in a wide range of careers, such as worksite wellness, teaching, health communications, dental hygienist, dental laboratory technician, healthcare management, nursing, medical technician, and counseling positions. They provide support to health care institutions such as hospitals, nursing homes, health maintenance organizations, physician offices, insurance companies, industrial health and safety units and a variety of other health care institutions.

The study of Life Sciences prepares students for occupations that are relevant to multiple industries, notably agriculture and healthcare. With

an Associate's or Bachelor's degree, students are prepared for jobs with companies engaged in the following: agriculture and food research; pharmaceutical research; medical device manufacturing; and biotechnology research. While ECC does not offer an Associate's degree in Life Sciences, courses students take within the liberal arts programs position them for transfer to four-year institutions.

While the largest regional growth is anticipated in the areas of medical devices, pharmaceutical and medicine manufacturing, and scientific research and development services, there will also be a significant need for workers in the areas of home health care services, ambulatory health care services, and outpatient care.

Whichever health science program ECC students choose to enroll in, they will gain essential knowledge and skills to enable them to succeed as a contributing caregiver entering the workforce or with the competencies required to succeed as a transfer student in a Baccalaureate program.

ECC Existing Health Sciences Programs

Clinical Laboratory Technician, A.A.S.
Dental Assisting, Certificate
Dental Hygiene, A.A.S.
Dental Laboratory Technology, A.A.S.
Emergency Medical Services Provider, Certificate
Emergency Medical Technology/Paramedic, Certificate
Emergency Medical Technology/Paramedic, A.A.S.
Food Service Administration-Dietetic Technology-Nutrition Care, A.A.S.
Health Information Technology, A.A.S.
Medical Assisting, A.A.S.
Medical Office Practice, Certificate
Mental Health Assistant - Alcohol Counseling, A.S.
Mental Health Assistant - Substance Abuse, A.S.
Nursing, A.A.S.
Occupational Therapy Assistant, A.A.S.
Ophthalmic Dispensing, A.A.S.
Radiation Therapy Technology, A.A.S.
Respiratory Care, A.A.S.

Tourism

According to the Buffalo Billion Investment Development Plan, two segments of the tourism market show promise for growth in the Buffalo Niagara region:

- Cultural/heritage (historic sites and museums)
- "Soft" outdoor adventure (outdoor activities, such as biking, hiking, backpacking, and nature tours)

ECC's current certificate and career programs align most directly with traditional occupations in the Tourism sector, such as chefs, bakers, cooks, and apprentices in hotels, restaurants, and casinos. In addition, other ECC programs offer training that could lead to jobs in the proposed growth segments of the Tourism sector. Graduates of the Business Administration, Communication and Media Arts, Physical Education Studies, and Liberal Arts programs could find a niche in the Tourism industry. The College's

Liberal Arts programs in Communication and Media Arts, Humanities, General Studies, and Social Science, although primarily designed for transfer, provide graduates with knowledge and skills applicable to jobs in marketing programs, cataloging collections, exhibit planning, fundraising, managing volunteers, and writing grants for historic sites and museums. After completing ECC's Physical Education Studies A.S. degree, students will have gained competencies applicable to recreational activities and be eligible to transfer to a four-year degree in Physical Education. They could easily assist in instructing individuals in outdoor activities.

ECC Existing Tourism-Related Programs

Baking & Pastry Arts, Certificate

Culinary Arts, A.O.S.

Casino Gaming Machine Repair Technician, Certificate

Hotel Restaurant Management, A.A.S.

Many of the jobs in the Tourism sector do not require a postsecondary education, such as waiters and waitresses, fast food cooks, housekeeping cleaners, dishwashers, cashiers, and bartenders. However, such jobs provide an entry-point into the workforce for many, especially young people. Some workers may benefit from English as a Second Language classes and from completing a General Education Diploma in order to move into academic programs that will advance them into careers. Part-time coursework in related fields of interest including management, accounting, and culinary arts may provide career advancement opportunities for these individuals.

Other ECC Programs

There are many programs at ECC that, although not directly related to the three targeted industry growth sectors, have coursework that would allow graduates to apply learned knowledge and skills to regional workforce positions. For example, first responder and police programs train individuals to provide security and safety to the region. The WNY REDC and the UB Regional Institute also identified Professional Services as an area of potential growth, and many ECC programs educate students for business and finance careers.

ECC's remaining academic programs fall within the Business & Public Service division. Nine of the nineteen programs are related, involving training for emergency first responders, criminal justice, and law enforcement occupations. Ideally, these programs would be co-located so they could share resources, staffing, and facilities. Currently the programs are spread over all three campuses.

Also included in this group are Early Childhood, Paralegal, and Physical Education Studies.

ECC Existing Business & Public Service Programs

Advanced Police Science, Certificate
Business Administration, A.A.S.
Business Administration (Transfer Option), A.S.
Computer Applications for the Office, Certificate
Crime Scene Technology, Certificate
Criminal Justice, A.S.
Criminal Justice/Law Enforcement, A.A.S.
Early Childhood, A.A.S.
Emergency Management, A.A.S.
Entrepreneurship, Certificate
Financial Services, Certificate
Fire Protection Technology, A.A.S.
Homeland Security, Certificate
Office Assistant, Certificate
Office Management, A.A.S.
Paralegal, A.A.S.
Physical Education Studies, A.S.
Police Basic Training, Certificate
Police Science, A.A.S.

The College regularly assesses its academic program array to determine the viability of each offering. ECC plans to deactivate the following programs, either because they are being transformed into another program or due to low enrollment:

- Financial Services, Certificate
- Geographic Information Systems
- Recreation Leadership (deactivated 2012)
- Web Network Technology

ECC Partnership Programs

ECC has long been a leader in workforce development in the Western New York region. The College has formed beneficial partnerships with several area businesses to create pathways for students to achieve educational and career success while addressing the workforce needs of employers in the region. ECC's partnership programs include:

- The Cisco Networking Academy (prepares students for Cisco and CompTIA certification exams)
- Industrial Refrigeration (optional RETA Certification)
- Oracle Academy (certification opportunities, such as Oracle Certified Associate and SQ: Certified Expert)
- The Machining/Manufacturing Alliance (Precision Machining certificate)
- Field Operations for Energy Utilities and Overhead Electric Line Worker Program (in conjunction with National Grid, gas utility companies, and IBEW 97)

The College has also formed partnerships with many other regional and multinational corporations, including:

- General Motors Corporation
- Ford Motor Company
- Chrysler

Are improvements required in current offerings that would align them better with employment opportunities in the area?

- DuPont
- BASF
- Carubba Collision
- Perry's Ice Cream
- Mollenberg-Betz
- Allied Frozen Storage
- Motorola

By developing and maintaining these essential partnerships, ECC helps provide the education, training, support, and career opportunities needed by today's workers.

ECC Workforce Development

Workforce Development provides customized non-credit professional development training to local businesses, individual community residents and local government employees. For more than 20 years, Workforce Development has complemented Erie Community College's academic mission.

Workforce Development's goal is to create partnerships and strategic alliances with the community and collaborative relationships with the local, regional and federal governments. Programs consist of customized short-term courses that meet business and industry training needs. These non-credit professional development, or lifestyle training programs, are offered at company sites or at any of the College's three campuses. Workforce Development has four divisions: community education, corporate training, driver programs, and the ECC One-Stop Center.

Community Education

The College offers seminars, workshops, and courses that provide students, employees, and community members with the opportunity to expand their knowledge and update their skills. For example, through a partnership with NYSERDA and the Center of Energy Efficiency and Building Science (CEEBS) at Hudson Valley Community College, ECC provides courses in energy efficiency and renewable energy.

Corporate Training

ECC's Corporate Training Department offers industrial companies Apprenticeship and Skilled Trades programs that are geared to both entry-level workers and veteran skilled-trades personnel. The College provides a variety of training programs to area industrial companies for many different occupations, including:

- Electrical Maintenance
- Machine Repair
- Machinist
- Millwright

Driver Programs

The Driver Safety Program curriculum emphasizes personal accountability and awareness of laws and how they impact the whole community. These programs are designed specifically for the different needs and types of drivers in various industries. The division is the largest provider of safety training in New York State with more than 20 years of experience in delivering services to the judicial, substance abuse, safety, and general community.

ECC One-Stop Center

The One-Stop Center at the North Campus offers job seekers Trade Act assistance for eligible customers, Microsoft Office 2010 computer classes, career preparation workshops, resume assistance, tuition grants for eligible students, networking groups, career counseling, job search assistance, high speed Internet access for job searching, labor market information, free postage for correspondence to businesses for job searching purposes, and referrals to other federal, state and local agencies.

What new programs should ECC offer to meet the region's workforce needs?

Individuals can start their educational pathway through ECC's Workforce Development offerings. While some of the pathways are specifically targeted on meeting the reported regional workforce needs, all pathways lead to creating a more skilled workforce. Many of the certificates and programs recommended in this report will directly support the workforce needs required to facilitate economic development in the region.

ECC Advisory Councils

Advisory councils help ECC academic program align to the region's workforce needs. Advisory council members include representatives from:

- Labor Unions
- Regional Colleges and Universities
- Law Enforcement and Emergency Services Departments
- Hospitals
- NYS Department of Labor
- NYS Judicial System
- BOCES
- Local Businesses and Professional Firms

Recommended Strategies for Improving Current Academic Program Offerings

There are many potential hurdles that students must surmount to earn an Associate's degree or complete a certificate program.

- Well over half of students entering community colleges need remediation in math and English. They often become discouraged and drop out before they can progress to credit-bearing courses.
- Many students end up using much of their financial aid on remedial

courses so they do not have sufficient funds to complete their programs of study.
- STEM and Health Science programs are often time-intensive and require college level math and science courses. This dissuades some students, especially those that have jobs and/or families that place demands on their time.
- Some students are discouraged because they think jobs in math and science fields are only for the super smart kids.

There are some steps that can be taken to improve ECC's academic programs and services to students that could increase overall student success and retention, as well as better align programs with employment opportunities in the area. By ensuring that students have every opportunity to achieve their educational goals, there is a greater chance they will be able to take their place in the workforce and help revitalize the regional economy.

- Expand dual-enrollment courses in math and science. Provide focused advising in high school to encourage students to get a solid foundation in STEM before they get to college.
- Accelerate, streamline, or embed remedial math (in particular), science, and English skills in academic courses.
- Include College Success Skills (basic skills) course in introductory, credit-bearing certificates to assist students in developing competencies essential for college and work. The College should consider including credit-bearing courses within all Workforce Development certificates.
- Provide students with a clear academic plan that will take them from basic-skills classes through certificate and degree programs, as well as provide a pathway to transfer to four-year colleges.
- Shift resources within programs to encourage enrollment in areas where workforce shortages are projected, e.g. business managers are abundant, but graduates in business finance will be in greater demand.
- Through grants and funding programs, continue to help students find the financial resources they need to sustain them through their college career.
- Advise students to consider opportunities for jobs and careers that the Department of Labor estimates will grow between 2010 and 2020, such as machinists (7 percent growth), chemical technicians (7 percent growth), agricultural and food science technologists (7 percent growth), materials engineers (9 percent growth), and biology technicians (14 percent growth). Many jobs in these areas require only an Associate's degree or certificate.
- Develop technical programs in life and physical sciences at the Associate's level to address the developing workforce needs of the region, such as Mechatronics, Advanced Manufacturing Technology, Biomanufacturing, Bioinformatics, and Supply Chain Management/ Logistics.
- Continue work with business and industry to fine tune curricula to align with workforce needs.
- Develop additional credit-bearing, stackable certificate programs to create a fast-track to removing the barriers adults face to college success

by connecting pre-college academics to career-technical coursework. The outcome of these programs could include industry-recognized certificates that put low-skilled adults on a pathway to a degree and improved employment opportunities.
- Develop additional industry-endorsed apprenticeships and paid internships with local manufacturers so students can obtain the on-the-job training valued by employers.
- Better align curricula statewide between community colleges.
- Streamline credit transfers to four-year institutions.
- The *Buffalo Billion Investment Development Plan* proposes the creation of the Buffalo Skills Partnership, which would be a "skills broker," connecting employers with Buffalo Niagara's educational institutions. In concept, ECC could work with the Western New York Regional Economic Development Council (WNY REDC), other educational institutions, manufacturers, industry associations, utility companies, labor organizations, government officials, and workforce development groups to facilitate the "match" of western New York's workforce with the needs of regional employers. ECC could take a leading role in this endeavor through the development and delivery of programs; providing space, equipment and faculty; and ensuring delivery of programs in areas accessible to the region's underserved populations.

Recommendations for New Academic Programs

ECC currently offers 100 degree and certificate programs. Based on meetings with College administrators, faculty and staff, and members of the community, as well as a thorough review of previous studies, articles, demographic data, and economic development reports, the addition of seven new Associate degree programs and fifteen new certificate programs is recommended.

These programs build on ECC's existing strengths and respond to the workforce needs of regional employers. ECC has earned a solid reputation in the community for its strong academic and occupational programs. Most recommended new programs and certificates augment existing programs and extend areas of competence in new directions without requiring the development of an entirely new set of courses. Building on existing strengths allows for program growth with minimal new course development and cost while providing programs that mesh with regional workforce needs. The recommended new programs and certificates will provide students with up-to-date knowledge and skills to match regional workforce projections.

ECC provides skills for underprepared high school graduates and returning adults to enter the workforce as college graduates or certificate holders. The starting place for some individuals seeking manufacturing jobs is with the existing Pathways to Success Pre-Collegiate Studies program that consists of courses designed to provide college-bound students with an opportunity to raise their math, reading and writing, computer and research skills in order to start their college studies in degree-level courses. These

introductory courses, combined with basic skills development recommended by businesses (e.g. ECC's College Success course) and program specific courses, are blended together in certificate programs designed to up-skill the Buffalo Niagara workforce. Some certificates are based on ECC's 15-week right-skilling manufacturing program and include apprenticeship opportunities. The certificate programs include coursework transferrable to Associate's degrees in employment areas designated by the Buffalo Niagara Partnership, including:

- Manufacturing - Mechatronics/Automation Certificate, Supply Chain Management/Logistics Certificate, Manufacturing Production Certificate
- Electronic Systems - Electrical Maintenance Certificate, Electronics Certificate, Industrial Electronics Maintenance (Mechatronics) Certificate
- Welding-Advanced Welding Certificate, Basic Pipe Welding Certificate, and Welding Fabrication Certificate

Students can apply the credits earned by taking these certificates toward existing and proposed Associate-level degrees including: Advanced Manufacturing Technology, A.A.S.; Mechatronics, A.A.S.; and Welding Technology, A.O.S.

For ECC's existing programs to remain vibrant and new programs to succeed, at least one full-time faculty member must be dedicated to each program. An enthusiastic and committed faculty leader keeps program content current, provides advisement and support to students, and serves as the point person for interaction with potential employers and transfer institutions. In addition, having one full-time faculty member providing oversight and guidance to each program, independent of the number of campuses where the program is taught, will provide program continuity among campuses and allow flexibility for students to schedule program-specific courses.

The College should consider the addition of the following new Associate's degree and certificate programs, organized into three categories: STEM Programs; Health and Life Sciences Programs; and Tourism Programs.

STEM Programs

Advanced Manufacturing Technology, A.A.S.

This program prepares graduates to achieve immediate employment working with many local and regional high-tech manufacturing companies. Covering an array of areas related to the field of precision metal and composite and plastic manufacturing, students learn basic and advanced principles in the operation of milling machines, lathes, grinders, band saws and drill presses. Computer-aided design (CAD) and computer-aided manufacturing (CAM) coursework/software is an integral part of the program, as is the instruction on the use of standard and advance tooling.

Mechatronics, A.A.S

The U.S. Department of Labor has listed mechatronics as a new and emerging "green jobs" growth area, but there is no mechatronics industry sector. It is an enabling approach to technology that is increasingly applied in a number of economic sectors including: alternative/renewable energy; biotechnology; life science and medical; electronics and applied computer equipment; telecommunications and information services; distribution; transportation and logistics; heavy and special trade construction; energy, mining and related support services; petroleum refining and chemical; transportation equipment; production support and industrial machinery; agriculture, forestry and food; and aerospace, homeland security and defense.

A Mechatronics program prepares students for a system approach to analysis and troubleshooting on advanced automated equipment and machinery, combining electronic, mechanical, robotics and control system technology found in modern manufacturing facilities. Students gain experience and skills needed to perform operations, maintenance, systematic troubleshooting, diagnosis, repair, and installation involving electrical, mechanical, robotics, and control systems in a manufacturing environment.

- **Industrial Electronics (Mechatronics), Certificate:** This interdisciplinary certificate integrates control systems, electronic systems, and mechanical systems into product design, troubleshooting, and automated manufacturing processes in the industrial environment. Courses are applicable to the Mechatronics AAS degree.

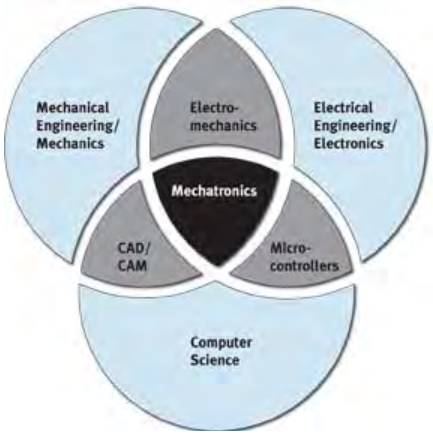


Figure 5.5
Mechatronics combines knowledge of mechanics, electricity, electronics and computers into an integrated hands-on, skills-based curriculum.
Source: CVCC Website, http://www.cvcc.edu

Electrical Maintenance, Certificate

Electrical maintenance training is designed to provide the student with the knowledge and ability to install, alter, repair, and maintain many types of electrical systems. The coursework gives the graduate flexibility to pursue different areas of employment as an entry-level electrician.

Electronics, Certificate

The certificate program in Electronics is designed to provide students with a broad-based knowledge of circuit theory and electronics. Laboratory work is included to ensure that hands-on experience is acquired along with a deep understanding of fundamental and changing technologies.

Cybersecurity, A.S.

A Cybersecurity A.S. Program prepares students for transfer to a four-year program in computer network and Internet security. It prepares students to develop information security strategies, perform risk analyses, install security software, monitor network traffic, and develop an emergency response plan. It provides background and hands-on experience in securing networks, servers, and clients.

Web and Mobile Applications, Certificate

A Web and Mobile Applications Certificate provides students with

knowledge and skills specific to the development of web and mobile computer applications. Study includes the languages and frameworks that are commonly used in developing these applications. Students learn how to combine critical thinking with appropriate methodology to develop and implement dynamic content.

Welding Technology, A.O.S.

Students in a Welding Associate's degree program learn to apply the fundamentals of welding, such as mathematics, blueprint analysis, layouts, fabrication, and metals, to the professional practice of welding. Some of the professional skills students develop include creating preliminary drawings with computer-aided design software, making cost estimations, enacting code requirements, and executing welding treatments according to industry-wide quality control standards.

The following certificates consist of specialized applied welding courses that are applicable toward a Welding Technology A.O.S. degree:

- **Basic Pipe Welding, Certificate**
- **Advanced Welding, Certificate**
- **Welding Fabrication, Certificate**

Manufacturing Production, Certificate

Students learn basic principles of the manufacturing process including safety, quality, and management. Students also gain an understanding of manufacturing maintenance skills.

Mechanics/Automation, Certificate

Students develop skills in electrical maintenance, industrial electronics, and mechatronics applicable to entry level positions. They develop the mechanical skills required to install and maintain a variety of mechanical systems common to industrial machinery.

Project Manager Professional, Certificate

Project Management breaks down the chaos of an overwhelming workload into manageable elements - scope, time, cost, quality, human resources, communication, risk, procurement, and integration. Students learn how to manage all phases of a project from brainstorming to completion. They develop skills to successfully deliver a quality product on schedule and within budget.

Supply Chain Management/Logistics, Certificate

Supply chain management encompasses the planning and management of all activities involved in sourcing, procurement, conversion, and logistics management. The curriculum includes business, mathematics, accounting, and supply chain management courses.

Health and Life Sciences Programs

Bioinformatics, A.S.

The coursework for Bioinformatics is a blend of biology, computer science, chemistry, and math. Students gain laboratory experience and use bioinformatics to transform raw data into an understanding of the functions of genes, proteins, and cells. Graduates are prepared to transfer to a four-year program.

Biomanufacturing, A.S.

The Biomanufacturing A.S. program includes coursework for the development of laboratory skills and characteristics essential to the biomanufacturing industry. The curriculum encompasses a concentration of courses in the manufacturing area relating to studies in Good Manufacturing Practices, Regulatory Compliance and Standard Operating Procedures, and courses in the liberal arts, social science, sciences, and mathematics. Students also study basic laboratory skills, aseptic process, and bio-safety. Graduates have the requisite coursework to transfer to a four-year program.

- **Food Manufacturing, Certificate:** Food manufacturing specialists review food processing to ensure that food retains nutritional value. Through introductory nutrition and science courses, students gain perspective of fundamental terminology and processing methods used in food production plants. Students can expect introductory courses in the fundamental concepts of food production and methods used for laboratory analysis of processed food quality.

Polysomnography/Sleep Disorders, Certificate

The Polysomnography certificate program prepares graduates for entry level work in the field of polysomnography or electroencephalography diagnostic testing. Polysomnography is an allied health specialty that deals with the diagnostic evaluation and management of patients with neurological and sleep abnormalities. The required coursework includes both didactic and laboratory instruction. Clinical courses would be offered at the proposed STEM Building's Sleep Diagnosis Lab.

Health & Wellness, A.S.

A Health and Wellness program prepares students to transfer to four-year programs so they can assume roles as health/wellness professionals in private business and industry, community organizations, and healthcare environments.

Early Childhood, Certificate

Certificate programs in Early Childhood Studies provide a solid understanding of child development and how children learn in the context of diverse families and communities through course assignments and observations.

Coursework provides a balance of skills in writing, communication, and mathematics. This certificate can be used as part of a complete career ladder in Early Childhood education and care.

Tourism Programs

Human Resources, Certificate

The Human Resource Certificate includes coursework that provides the student a baseline general knowledge in human resource topics and is suited for entry level human resource work. The certificate program includes courses that cover recruiting practices, employment laws, employee management, and general human resources strategies.

Event Planning, Certificate

Students develop skills to quickly and effectively improve event and meeting planning and management through best practices in conceptualization, budgeting, attendee acquisition, and marketing. They learn to manage details including budget, timelines, choosing the best current technologies, securing insurance and permits, creating impactful atmospheres at venues, and managing staff.

Summary

The addition of these new programs, in conjunction with the recommended strategies for improving current programs, will help ECC align its academic program offerings with the workforce development needs of the region. However, to ensure that new programs succeed and existing programs and services continue to meet the needs of Erie County residents, several changes will be needed at ECC:

- Additional state-of-the-art space is needed to accommodate some current and new programs.
- Existing facilities, particularly at the North Campus, are in poor condition. Repairs are needed to ensure the continued functioning of many building systems. Renovations are required to bring instructional spaces into the 21st Century and to project a college, rather than a high-school, environment.
- Some programs, such as Respiratory Care on the North Campus, require additional and/or upgraded space to meet accreditation requirements.
- Informal gathering spaces for students should be provided, as they are an important part of co-curricular learning.
- Sufficient office space is needed for the multitude of adjuncts that teach at all three campuses.
- Funding must be provided to fill open faculty lines and to hire full-time faculty for new programs to ensure the vitality and quality of the programs.
- Space resources need to be redistributed to create appropriately sized classrooms.

Erie Community College Space Utilization 6

Instructional Space Utilization Analysis

Is the existing space at ECC's three campuses being efficiently utilized?

The effective use of classroom and class lab space is an essential factor in space utilization efficiency. As campus funding for capital expenditures is reduced, and space shortages and the need for new types of space develop, it becomes even more important for colleges to focus on the efficient use of their current resources. In order to ensure the most efficient use of the College's space resources, the consultants conducted a utilization study of classrooms and class labs on the three campuses.

For the purposes of this analysis, a classroom is defined as a room used for classes that is not tied to a specific subject or discipline by equipment in the room or the configuration of the space. Such rooms include classrooms equipped with computer workstations, as long as the computer software is not dedicated to a single academic discipline.[1] A class lab is a room primarily used for formally or regularly scheduled classes that require special purpose equipment or a specific room configuration for student participation, experimentation, observation, or practice in an academic discipline. Some spaces included in this category are science laboratories, group studios, and instructional health laboratories. Computer rooms used primarily to instruct students in the use of computers are classified as class labs if that instruction is conducted primarily in formally or regularly scheduled classes.

The following summary provides an overview of ECC's classrooms and class labs and their distribution and use patterns during the fall 2012 semester.

Study Methodology

Scheduling data for the fall 2012 semester for credit courses was used for the study. The scheduling database provided by the College contained information such as the name of the course, course locations, meeting days and times, the portion of the semester in which the course was taught, and

1 National Center for Education Statistics. (July 1992). Postsecondary Education Facilities Inventory and Classification Manual.

the number of students enrolled in each course. Data elements from the College's physical space inventory (PSI) were merged with the scheduling database to provide information about the number of student stations (seats) in each room, the area of the room, and the space description (classroom or class lab). The planning team did not update the College's PSI as part of this project; hence, some seat occupancy findings may be inaccurate due to errors in the PSI. Also, some rooms were not correctly identified in the PSI, so the planning team made some assumptions based on building walk-throughs. Despite these discrepancies, this analysis provides an assessment of current space utilization that is accurate enough for the purposes of this study.

While the majority of courses ran from September through December, many were held during only a portion of the semester. This meant that it was possible for a classroom to be scheduled for more than one course on the same day of the week, at the same time of day if the courses ran during different portions of the semester. Therefore, it was necessary to take a "snap shot" of the schedule at one point during the semester to eliminate potential scheduling conflicts and double counting. The sixth week of the semester was chosen for the analysis for all three campuses because the credit course meetings offered during this period represented peak utilization.

Target Criteria

There are three variables in the space utilization equation: the square footage per student station in each room; the percentage of available hours a room is scheduled; and the percentage of seats filled when a room is in use. A change in any one of these variables has an effect on the utilization of the space. The following target criteria were developed by SUNY. They were used for this study to determine whether a room was being used efficiently. Figure 6.1 provides the target criteria used in this study.

Square Footage per Student Station

- Ideally, 20 to 25 square feet should be provided for each student workstation in a classroom. SUNY space guidelines only call for 16 square feet per student station in a classroom.
- Computer labs should have 35 square feet per station.
- In science labs, student stations should be 40 to 50 square feet. Student stations in arts and vocational instruction labs can be up to 115 square feet, depending on what is being taught in the space.

Room Utilization

- Optimally, each classroom should be scheduled 30 hours over the course of a five-day, 40-hour week during the day and 15 hours over the course of a four day, 20-hour week during the evening.
- Class labs should be scheduled 24 hours per week during the same five-day period during the day and 12 hours during the same four-day period during the evening.

Seat Occupancy

- 80 percent of seats should be filled when a course meeting is in session. A target of 80 percent, versus 100 percent, allows for flexibility in seating arrangements. Lower fill rates suggest inefficient use of the space.

Figure 6.1

Target Criteria

Room Type	Student Station Size (ASF)	Room Utilization: Daytime Hours 40 Hours/Week (Monday-Friday)	Room Utilization: Evening Hours 20 Hours/Week (Monday-Thursday)	Seat Utilization: Target Range Day and Evening
Classrooms	20-25 ASF	30 Hours (75%)	15 Hours (75%)	80%
General/Open Computer Labs	35 ASF	30 Hours (75%)	15 Hours (75%)	80%
Class Labs	40-50 ASF Natural & Social Science	24 Hours (60%)	12 Hours (60%)	80%
	up to 115 ASF Arts & Vocational Technology			

Instructional Spaces in the Study

The 142 classrooms and 140 class labs that were scheduled for classes during week six of the fall 2012 semester were included in the study.

City Campus: 42 classrooms and 28 class labs
North Campus: 64 classrooms and 69 class labs
South Campus: 36 classrooms and 43 class labs

In the 1960s, when the SUNY space guidelines were formulated, 16 square feet was the standard amount of space allocated per student in general classrooms. This is marginally sufficient to accommodate small tablet arm chairs and support the traditional "sage on the stage" mode of teaching where students passively listen to an instructor's lecture. Ideally, 20 to 25 square feet should be provided for each student to allow for an appropriately sized work surface and chair, circulation throughout the room, and sufficient space to rearrange furnishings to facilitate collaborative and active learning pedagogies.

The area allocated for student stations in class labs is highly dependent on the subject matter being taught. For example, Biology and Chemistry Labs should have 40 to 50 square foot per station with a maximum of 24 stations per lab. Automotive Technology Labs can have areas in excess of 115 square feet dedicated to each student. Tables 6.2 to 6.4 on pages 79 to 90 provide a description of each of the rooms in the study including: room number, room name, room area, number of student seats, and the area per seat. This data was taken from the College's Physical Space Inventory (PSI).

Utilization Study Results

Utilization Tables

The tables in Figures 6.2 to 6.4 provide a summary of the hourly and seat fill utilization results for scheduled instructional spaces in fall 2012 during week six: City Campus – 70; North Campus – 133; and South Campus – 79. The results are divided into day and evening groupings. The room area, number of seats, number of square feet per seat, and the number of hours each room was scheduled during the week are provided for each space.

The green highlighting in the two right-hand columns indicates that the SUNY target criteria were met. The red highlighting indicates that targets were exceeded. This occurs either when a room is scheduled for more than the recommended number of hours and/or when more than 80 percent of the seats in the room are filled. During the academic programming interviews, faculty repeatedly mentioned that classrooms were overcrowded, making instruction difficult.

There are some instances in the following tables where the percent of seats occupied exceeds 100 percent. This can occur for a couple of reasons. First, if additional seats were brought into a room to accommodate an especially large course section, the recorded enrollment will exceed the recorded number of seats in the room. This may be the case where the tables indicate a slight overfill of seats, e.g., 104 percent. However, when the percent seats occupied numbers exceed 130 percent, it is more likely due to an error in the number of reported chairs in a room. The College and the planning team made every effort to verify the number of chairs in all spaces, but it was not always possible to do so. However, the number of cases where this discrepancy occurs is minimal and the results of the study are valid.

Table 6.2 - City Campus

Room No.	Room Description	Area (NASF)	No. of Stations	SF per Seat	No. of Hours Scheduled in Week	Percent Seats Occupied	Percent Hours Scheduled
City Campus							
Day Courses							
45 Oak Street							
114	CLASSROOM	850	32	27	5.00	62.5%	12.5%
119	CLASSROOM	890	32	28	25.00	77.7%	62.5%
120	CLASSROOM	718	32	22	15.00	82.1%	37.5%
130	CLASSROOM	130	32	4	27.00	60.7%	67.5%
132	CLASSROOM	832	32	26	7.50	54.2%	18.8%
137	BMM HVAC LAB	1,164	32	36	12.33	46.9%	30.8%
142	RAD TECH CLASSROOM	968	32	30	20.50	53.1%	51.2%
151	CLASSROOM	383	6	64	2.50	316.7%	6.3%
	Classroom Total	5,935	230				
121	NURSING LAB	1,365	32	43	13.17	75.0%	32.9%
129	NURSING LAB	1,220	32	38	12.67	98.8%	31.7%
	Class Lab Total	2,585	64				
	45 Oak Street Total	8,520	294				
Athletic Center							
A112	CONFERENCE ROOM	462	24	19	14.17	85.0%	35.4%
A113	CLASSROOM	584	29	20	23.33	93.8%	58.3%
	Classroom Total	1,046	53				
GYM1	GYM	22,425	20	1,121	11.67	65.5%	29.2%
	Class Lab Total	22,425	20				
	Athletic Center Total	23,471	73				
Old Post Office							
270	MEDIATED LEARNING	640	28	23	17.50	77.6%	43.7%
304	CLASSROOM	456	28	16	23.58	53.0%	59.0%
314	CLASSROOM	736	37	20	22.50	47.2%	56.2%
320	CLASSROOM	868	43	20	25.42	47.3%	63.5%
322	CLASSROOM	899	45	20	19.83	41.6%	49.6%
328	CLASSROOM	900	45	20	17.50	24.3%	43.8%
342	CLASSROOM	500	25	20	21.67	75.3%	54.2%
358	CLASSROOM	714	36	20	8.25	31.3%	20.6%
372	CLASSROOM	722	36	20	20.83	66.9%	52.1%
420	LECTURE HALL	1,194	72	17	24.08	29.7%	60.2%
428	CLASSROOM	615	31	20	24.17	74.3%	60.4%
440	CLASSROOM	780	39	20	23.17	61.3%	57.9%
442	CLASSROOM	754	38	20	25.83	63.7%	64.6%
452	CLASSROOM	780	39	20	27.00	59.2%	67.5%
474	ENG-SECOND LANGUAGE	418	20	21	13.00	52.5%	32.5%
504	CLASSROOM	654	33	20	23.50	68.9%	58.8%
526	CLASSROOM	784	39	20	25.08	54.8%	62.7%
530	CLASSROOM	924	28	33	21.25	92.0%	53.1%
540	CLASSROOM	832	42	20	25.50	53.4%	63.7%
542	CLASSROOM	676	34	20	18.33	66.4%	45.8%
552	CLASSROOM	768	38	20	24.58	56.2%	61.5%
560	CLASSROOM	660	20	33	20.00	90.0%	50.0%
562	CLASSROOM	748	37	20	26.17	58.0%	65.4%
572	CLASSROOM	527	26	20	17.50	73.1%	43.7%
G02	CLASSROOM	663	33	20	10.00	84.5%	25.0%
G03	BMM CLASSROOM	1,352	32	42	4.50	46.9%	11.3%
G65	BMM CLASSROOM	749	32	23	21.33	41.7%	53.3%
G70	BMM CLASSROOM	707	32	22	2.25	46.9%	5.6%
M50A	CLASSROOM	527	26	20	13.33	73.1%	33.3%
M50B	CLASSROOM	515	26	20	12.50	89.4%	31.2%
M52	CLASSROOM	624	31	20	20.00	73.2%	50.0%

Table 6.2 - City Campus (continued)

Room No.	Room Description	Area (NASF)	No. of Stations	SF per Seat	No. of Hours Scheduled in Week	Percent Seats Occupied	Percent Hours Scheduled
City Campus							
Day Courses							
Old Post Office							
230	DINING ROOM	1,024	50	20	24.17	14.0%	60.4%
231	FACULTY OFFICE	230	4	58	12.00	175.0%	30.0%
240	KITCHEN LAB	583	24	24	17.50	67.2%	43.7%
244	KITCHEN LAB	703	12	59	46.58	79.2%	116.5%
250	HOTEL TECH LAB	1,024	32	32	23.17	63.3%	57.9%
310	ART LAB	992	25	40	23.17	55.6%	57.9%
330	BIOLOGY LAB	992	30	33	22.50	69.8%	56.2%
340	ANATOMY LAB	936	30	31	30.00	77.5%	75.0%
350	MICROBIOLOGY LAB	1,008	30	34	23.33	72.1%	58.3%
352	COMPUTER LAB	759	38	20	25.33	55.8%	63.3%
370	COMPUTER LAB	614	31	20	17.50	54.6%	43.7%
410	COMPUTER LAB	974	28	35	7.50	63.9%	18.8%
412	COMPUTER LAB	1,254	24	52	23.33	83.3%	58.3%
430	CHEMISTRY LAB	1,024	24	43	12.50	59.7%	31.3%
450	CHEMISTRY LAB	1,024	12	85	13.17	123.1%	32.9%
462	COMPUTER LAB	960	32	30	16.67	65.1%	41.7%
470	COMPUTER LAB	832	24	35	12.50	51.4%	31.3%
550	PHYSICS LAB	896	16	56	27.50	119.7%	68.7%
570	HUMAN INTER LAB	768	15	51	23.33	172.4%	58.3%
AUD	AUDITORIUM	1,997	25	80	15.85	83.4%	39.6%
G31	WOOD & STEEL LAB	3,246	24	135	13.50	65.3%	33.8%
G49	COMPUTER LAB	1,485	24	62	16.00	55.2%	40.0%
G50	BUILDING MAINT LAB	1,733	15	116	6.50	100.0%	16.3%
G61	DRAFTING LAB	1,486	24	62	11.17	56.5%	27.9%
G72	BMM CLASSROOM	638	25	26	11.75	61.1%	29.4%
	Class Lab Total	27,182	618				
	Old Post Office Total	49,868	1,689				
City Campus Day Course Total		**81,859**	**2,056**				

Room No.	Room Description	Area (NASF)	No. of Stations	SF per Seat	Sum of Weekly Session Duration	Percent Seats Occupied	Percent Hours Scheduled
City Campus							
Evening Courses							
45 Oak Street							
119	CLASSROOM	890	32	28	7.50	52.1%	37.5%
120	CLASSROOM	718	32	22	10.00	60.9%	50.0%
130	CLASSROOM	130	32	4	5.00	35.9%	25.0%
132	CLASSROOM	832	32	26	2.50	37.5%	12.5%
134	CLASSROOM	850	32	27	7.50	45.8%	37.5%
137	BMM HVAC LAB	1,164	32	36	13.00	45.8%	65.0%
151	CLASSROOM	383	6	64	11.17	194.4%	55.8%
	Classroom Total	4,967	198				
	45 Oak Street Total	4,967	198				
Athletic Center							
A112	CONFERENCE ROOM	462	24	19	2.50	33.3%	12.5%
A113	CLASSROOM	584	29	20	3.50	31.0%	17.5%
	Classroom Total	1,046	53				

Table 6.2 - City Campus (continued)

Room No.	Room Description	Area (NASF)	No. of Stations	SF per Seat	No. of Hours Scheduled in Week	Percent Seats Occupied	Percent Hours Scheduled
City Campus							
Evening Courses							
Old Post Office							
304	CLASSROOM	456	28	16	9.17	51.8%	45.8%
314	CLASSROOM	736	37	20	7.50	43.9%	37.5%
320	CLASSROOM	868	43	20	10.00	46.1%	50.0%
322	CLASSROOM	899	45	20	10.83	35.9%	54.2%
328	CLASSROOM	900	45	20	5.00	25.6%	25.0%
342	CLASSROOM	500	25	20	7.50	92.0%	37.5%
358	CLASSROOM	714	36	20	5.42	32.6%	27.1%
372	CLASSROOM	722	36	20	5.00	61.1%	25.0%
420	LECTURE HALL	1,194	72	17	10.50	27.8%	52.5%
428	CLASSROOM	615	31	20	10.25	66.9%	51.3%
440	CLASSROOM	780	39	20	10.25	54.5%	51.3%
442	CLASSROOM	754	38	20	10.00	58.6%	50.0%
452	CLASSROOM	780	39	20	12.50	57.9%	62.5%
474	ENG-SECOND LANGUAGE	418	20	21	1.25	65.0%	6.2%
504	CLASSROOM	654	33	20	10.50	75.0%	52.5%
526	CLASSROOM	784	39	20	5.00	43.6%	25.0%
530	CLASSROOM	924	28	33	8.58	47.3%	42.9%
540	CLASSROOM	832	42	20	5.50	67.9%	27.5%
542	CLASSROOM	676	34	20	2.50	67.6%	12.5%
552	CLASSROOM	768	38	20	16.08	55.3%	80.4%
560	CLASSROOM	660	20	33	5.00	55.0%	25.0%
562	CLASSROOM	748	37	20	11.08	70.8%	55.4%
572	CLASSROOM	527	26	20	5.00	82.7%	25.0%
G02	CLASSROOM	663	33	20	5.25	80.8%	26.3%
	Classroom Total	17,572	864				
240	KITCHEN LAB	583	24	24	30.00	50.0%	150.0%
244	KITCHEN LAB	703	12	59	9.75	50.0%	48.7%
250	HOTEL TECH LAB	1,024	32	32	2.50	18.8%	12.5%
310	ART LAB	992	25	40	6.83	49.3%	34.2%
330	BIOLOGY LAB	992	30	33	10.00	71.7%	50.0%
340	ANATOMY LAB	936	30	31	10.00	70.8%	50.0%
350	MICROBIOLOGY LAB	1,008	30	34	4.17	75.0%	20.8%
352	COMPUTER LAB	759	38	20	8.25	25.7%	41.2%
370	COMPUTER LAB	614	31	20	2.50	50.0%	12.5%
412	COMPUTER LAB	1,254	24	52	5.00	62.5%	25.0%
430	CHEMISTRY LAB	1,024	24	43	5.00	60.4%	25.0%
462	COMPUTER LAB	960	32	30	12.50	48.1%	62.5%
550	PHYSICS LAB	896	16	56	5.00	75.0%	25.0%
570	HUMAN INTER LAB	768	15	51	7.75	88.9%	38.8%
G31	WOOD & STEEL LAB	3,246	24	135	4.33	58.3%	21.7%
G49	COMPUTER LAB	1,485	24	62	13.00	58.3%	65.0%
G61	DRAFTING LAB	1,486	24	62	3.33	66.7%	16.7%
G72	BMM CLASSROOM	638	25	26	5.00	48.0%	25.0%
	Class Lab Total	19,368	460				
	Old Post Office Total	36,940	1,324				
City Campus Evening Course Total		**42,953**	**1,575**				

Table 6.3 - North Campus

Room No.	Room Description	Room Area (NASF)	No. of Stations	SF per Seat	No. of Hours Scheduled in Week	Percent Seats Occupied	Percent Hours Scheduled
North Campus							
Day Courses							
Bell Sports Center							
115	CLASSROOM	600	40	15	23.33	44.8%	58.3%
	Classroom Total	600	40				
141	PHYSICAL EDUCATION/HEALTH	640	16	40	15.83	94.8%	39.6%
WEIGHT		822	10	82	11.67	137.5%	29.2%
	Class Lab Total	1,462	26				
	Bell Sports Center Total	2,062	66				
Bretschger							
113B	CLASSROOM	480	30	16	17.85	66.7%	44.6%
207	LECTURE HALL	2,100	121	17	21.67	16.9%	54.2%
304	CLASSROOM	816	32	26	9.17	83.5%	22.9%
318	CLASSROOM	640	31	21	18.50	66.8%	46.2%
401	LECTURE HALL	2,930	240	12	20.83	14.1%	52.1%
410	CLASSROOM	1,493	32	47	25.00	108.0%	62.5%
411	CLASSROOM	1,493	30	50	27.50	95.8%	68.7%
512	CLASSROOM	1,413	36	39	14.00	25.7%	35.0%
602	LECTURE HALL	2,930	240	12	92.50	8.0%	231.3%
607	CLASSROOM	480	32	15	18.17	68.9%	45.4%
614	CLASSROOM	480	27	18	23.33	63.4%	58.3%
701	CLASSROOM	715	29	25	12.50	81.4%	31.3%
702	CLASSROOM	595	32	19	13.33	59.4%	33.3%
712A	CLASSROOM	622	30	21	2.50	46.7%	6.2%
713	CLASSROOM	1,280	30	43	12.83	133.3%	32.1%
722	CLASSROOM	636	32	20	23.00	67.2%	57.5%
	Classroom Total	19,103	1,004				
103	ELECTRICAL CIRCUI	1,390	32	43	5.50	30.2%	13.8%
104	ELECTRICAL ROTATI	1,911	32	60	2.50	34.4%	6.2%
106	ELECTRONIC COMMUNICATIONS	1,735	28	62	11.17	38.6%	27.9%
107	OPTICS TECHNOLOGY	936	20	47	11.00	52.5%	27.5%
109	GEOMETRIC OPTIC LAB	900	30	30	12.67	37.1%	31.7%
110	FINISHING LAB	1,025	20	51	7.33	52.5%	18.3%
112	SURFACING LAB	1,070	20	54	11.25	146.8%	28.1%
113A	COMPUTER LAB	1,312	30	44	16.50	34.2%	41.3%
114	PROCESS & INDUSTR	1,485	28	53	14.83	48.8%	37.1%
200	TYPING LAB	1,200	28	43	20.00	68.0%	50.0%
202	TYPING LAB	1,680	30	56	17.67	50.0%	44.2%
203	SECRETARIAL SCIENCE	1,600	18	89	24.17	71.7%	60.4%
204	SECRETARIAL SCIENCE	2,000	18	111	24.83	83.7%	62.1%
209	TYPING LAB	1,400	22	64	16.67	101.0%	41.7%
301	COMPUTER LAB	831	30	28	16.40	61.9%	41.0%
305	METHODS LAB	437	32	14	5.50	37.5%	13.8%
306	MACHINE TOOL LAB	2,547	30	85	40.00	36.7%	100.0%
307	ELEMENTARY MACHINE	1,646	12	137	15.00	95.0%	37.5%
307A	CNC LAB	371	12	31	15.00	91.7%	37.5%
307B	CNC LAB	1,664	12	139	6.00	100.0%	15.0%
308	CIM CENTER	877	25	35	6.00	48.0%	15.0%
315A	ART LAB	244	8	31	7.83	162.5%	19.6%
316	INSTRUMENT LAB	1,000	30	33	7.50	37.5%	18.8%
400	CAD LAB	1,482	24	62	21.00	69.9%	52.5%
402	DRAFTING LAB	1,495	26	58	16.17	41.2%	40.4%
403	DRAFTING LAB	1,495	32	47	22.67	49.0%	56.7%
413	POLICE SCIENCE LAB	792	20	40	22.33	91.5%	55.8%
500	COMPUTER LAB	738	14	53	28.83	100.5%	72.1%
501	COMPUTER LAB	834	18	46	24.00	94.9%	60.0%
504	CAD LAB	1,413	28	50	26.83	34.7%	67.1%
505	DRAFTING LAB	1,417	32	44	20.33	37.5%	50.8%

Table 6.3 - North Campus (continued)

Room No.	Room Description	Room Area (NASF)	No. of Stations	SF per Seat	No. of Hours Scheduled in Week	Percent Seats Occupied	Percent Hours Scheduled
North Campus							
Day Courses							
Bretschger							
506	METALS LAB	2,652	30	88	9.50	34.4%	23.8%
507	STRENGTH & MATERIALS	1,618	24	67	11.83	88.1%	29.6%
509	WELDING LAB	3,093	30	103	10.50	34.4%	26.3%
510	DRAFTING LAB	1,417	25	57	15.83	45.7%	39.6%
511	DRAFTING LAB	1,413	32	44	5.33	32.8%	13.3%
513	DRAFTING LAB	1,413	30	47	24.50	34.4%	61.3%
600	CHEMISTRY LAB	1,440	20	72	12.48	71.0%	31.2%
601	CHEMISTRY LAB	1,440	32	45	9.97	44.5%	24.9%
603	CHEMISTRY LAB	1,440	20	72	26.83	75.6%	67.1%
608	MEDICAL ASSIST LAB	480	32	15	14.67	23.4%	36.7%
610	MEDICAL TECHNOLOGY	1,480	16	93	16.83	60.4%	42.1%
612	MEDICAL TECHNOLOGY	1,480	16	93	13.67	88.2%	34.2%
707	FUEL GAS LAB	1,233	15	82	3.00	113.3%	7.5%
708	GEN CHEMISTRY LAB	1,429	30	48	5.00	46.7%	12.5%
711	ORGANIC CHEMISTRY	1,850	30	62	20.00	62.3%	50.0%
717	CHEMISTRY LAB	1,800	30	60	7.47	45.6%	18.7%
	Class Lab Total	64,605	1,153				
	Bretschger Total	83,708	2,157				
Gleasner Hall							
153	DIETARY NUTRITION	472	25	19	29.33	64.0%	73.3%
211	CAREER PLANNING	472			24.92		62.3%
AUD	AUDITORIUM	3,441	400	9	5.00	4.4%	12.5%
	Classroom Total	4,385	425				
215	RESPIRATORY LAB	476	20	24	18.25	42.5%	45.6%
	Class Lab Total	476	20				
	Gleasner Hall Total	4,861	445				
Kittinger Hall							
100	LECTURE HALL	2,930	238	12	15.00	15.0%	37.5%
115	CLASSROOM	480	32	15	23.33	89.6%	58.3%
116	CLASSROOM	480	32	15	17.50	49.0%	43.8%
117	CLASSROOM	480	32	15	20.00	104.8%	50.0%
118	CLASSROOM	448	32	14	17.50	69.3%	43.7%
126	CLASSROOM	480	32	15	25.00	80.9%	62.5%
127	CLASSROOM	480	32	15	24.75	98.8%	61.9%
128	CLASSROOM	480	32	15	18.33	51.3%	45.8%
129	CLASSROOM	480	32	15	11.67	75.0%	29.2%
130	CLASSROOM	480	32	15	25.43	69.1%	63.6%
131	CLASSROOM	480	32	15	20.85	100.9%	52.1%
132	CLASSROOM	480	32	15	19.17	89.3%	47.9%
133	CLASSROOM	480	32	15	21.25	96.7%	53.1%
134	CLASSROOM	480	32	15	22.50	68.2%	56.2%
135	CLASSROOM	480	32	15	22.53	65.9%	56.3%
136	CLASSROOM	480	32	15	23.87	76.1%	59.7%
137	CLASSROOM	488	32	15	15.83	55.7%	39.6%
138	CLASSROOM	480	32	15	16.67	56.8%	41.7%
156	CLASSROOM	610	25	24	7.08	54.7%	17.7%
162	CLASSROOM	660	41	16	17.92	57.2%	44.8%
163	CLASSROOM	600	37	16	22.50	64.5%	56.2%
212	CLASSROOM	480	32	15	16.00	71.2%	40.0%
213	CLASSROOM	480	32	15	30.00	67.8%	75.0%
214	CLASSROOM	480	32	15	20.83	84.7%	52.1%
215	CLASSROOM	480	32	15	25.00	62.1%	62.5%
216	CLASSROOM	480	32	15	17.68	40.8%	44.2%
223	CLASSROOM	420	32	13	25.00	68.6%	62.5%

Table 6.3 - North Campus (continued)

Room No.	Room Description	Room Area (NASF)	No. of Stations	SF per Seat	No. of Hours Scheduled in Week	Percent Seats Occupied	Percent Hours Scheduled
North Campus							
Day Courses							
Kittinger Hall							
224	CLASSROOM	480	32	15	16.42	64.6%	41.0%
225	CLASSROOM	480	32	15	22.50	78.5%	56.2%
226	CLASSROOM	480	32	15	21.67	74.7%	54.2%
227	CLASSROOM	480	32	15	25.00	70.2%	62.5%
228	CLASSROOM	480	32	15	23.33	87.4%	58.3%
229	CLASSROOM	480	32	15	32.50	72.7%	81.2%
230	CLASSROOM	480	32	15	27.50	76.8%	68.7%
231	CLASSROOM	480	32	15	30.00	71.8%	75.0%
232	CLASSROOM	480	32	15	27.50	67.1%	68.7%
233	CLASSROOM	480	32	15	27.50	66.4%	68.8%
234	CLASSROOM	480	32	15	25.00	76.1%	62.5%
235	CLASSROOM	480	32	15	20.83	66.3%	52.1%
236	CLASSROOM	480	32	15	17.92	28.1%	44.8%
237	CLASSROOM	492	32	15	18.33	57.9%	45.8%
259	STUDY ROOM	650	24	27	7.50	65.3%	18.8%
	Classroom Total	23,138	1,549				
155	PHYSICS LAB	600	32	19	21.00	86.7%	52.5%
157	PHYSICS LAB	960	24	40	9.17	52.5%	22.9%
160	PHYSICS LAB	990	24	41	16.92	54.6%	42.3%
161	PHYSICS LAB	960	24	40	14.17	60.0%	35.4%
238	COMPUTER LAB	480	20	24	10.83	80.4%	27.1%
255	LANGUAGE LAB	874	30	29	25.00	37.8%	62.5%
256	BIOLOGY LAB	1,200	16	75	25.00	123.1%	62.5%
260	BIOLOGY LAB	1,200	16	75	20.00	137.5%	50.0%
261	NURSING LAB	1,227	24	51	8.33	87.5%	20.8%
	Class Lab Total	8,491	210				
	Kittinger Hall Total	31,629	1,759				
Spring Student Center							
116A	LECTURE ROOM	769	64	12	8.33	47.2%	20.8%
116B	LECTURE ROOM	769	64	12	11.50	37.9%	28.7%
148	CLASSROOM	694	43	16	24.10	55.2%	60.2%
	Classroom Total	2,232	171				
100	DENTAL CLINIC	5,432	36	151	12.00	68.1%	30.0%
102	X RAY DKRM/VIEW	930	6	155	29.33	76.0%	73.3%
109	DENTAL LECTURE LAB/CLASSROOM	690	40	17	26.00	68.3%	65.0%
111	DENTAL ASST LAB/CLASSROOM	630	8	79	35.33	94.5%	88.3%
118	DENTAL LAB	783	16	49	23.63	85.0%	59.1%
123	ART LAB/CLASSROOM	1,800	18	100	16.67	76.5%	41.7%
134	STATLER FOOD LAB	1,891	24	79	57.33	63.8%	143.3%
CAFE	CAFETERIA/CULINARY & HOSP LAB	7,688	250	31	44.00	5.0%	110.0%
ERIE	CULINARY/HOSP LAB	1,134	60	19	47.00	24.4%	117.5%
	Class Lab Total	20,978	458				
	Spring Student Center Total	23,210	629				
North Campus Day Course Total		**145,470**	**5,056**				

Table 6.3 - North Campus (continued)

Room No.	Room Description	Room Area (NASF)	No. of Stations	SF per Seat	No. of Hours Scheduled in Week	Percent Seats Occupied	Percent Hours Scheduled
North Campus							
Evening Courses							
Bell Sports Center							
115	CLASSROOM	600	40	15	2.50	22.5%	12.5%
	Classroom Total	600	40				
141	PHYSICAL EDUCATION/HEALTH	640	16	40	5.00	81.3%	25.0%
	Class Lab Total	640	16				
	Bell Sports Center Total	1,240	56				
Bretschger							
113B	CLASSROOM	480	30	16	3.00	26.7%	15.0%
207	LECTURE HALL	2,100	121	17	3.33	36.4%	16.7%
318	CLASSROOM	640	31	21	10.00	61.3%	50.0%
401	LECTURE HALL	2,930	240	12	2.50	5.0%	12.5%
410	CLASSROOM	1,493	30	50	2.50	50.0%	12.5%
411	CLASSROOM	1,493	30	50	10.33	53.3%	51.7%
512	CLASSROOM	1,413	36	39	8.33	28.7%	41.7%
602	LECTURE HALL	2,930	240	12	5.00	13.1%	25.0%
607	CLASSROOM	480	32	15	2.50	71.9%	12.5%
702	CLASSROOM	595	32	19	2.83	68.8%	14.2%
722	CLASSROOM	636	32	20	6.00	46.9%	30.0%
	Classroom Total	15,190	854				
103	ELECTRICAL CIRCUITING	1,390	32	43	5.50	39.6%	27.5%
109	GEOMETRIC OPTIC LAB	900	30	30	3.33	40.0%	16.7%
113A	COMPUTER LAB	1,312	30	44	15.83	30.8%	79.2%
114	PROCESS & INDUSTR.	1,485	28	53	3.50	39.3%	17.5%
200	TYPING LAB	1,200	28	43	7.50	53.6%	37.5%
202	TYPING LAB	1,680	30	56	5.83	47.8%	29.2%
203	SECRETARIAL SCIENCE	1,600	18	89	10.00	58.3%	50.0%
204	SECRETARIAL SCIENCE	2,000	18	111	7.00	125.9%	35.0%
209	TYPING LAB	1,400	22	64	9.50	67.0%	47.5%
301	COMPUTER LAB	831	30	28	3.50	51.7%	17.5%
305	METHODS LAB	437	32	14	8.67	49.2%	43.3%
306	MACHINE TOOL LAB	2,547	30	85	17.00	38.0%	85.0%
307	ELEMENTARY MACHINE	1,646	12	137	9.00	94.4%	45.0%
307A	CNC LAB	371	12	31	6.00	95.8%	30.0%
307B	CNC LAB	1,664	12	139	9.00	94.4%	45.0%
312	INDS REFR LAB	898	12	75	14.83	125.0%	74.2%
315A	ART LAB	244	8	31	19.17	190.0%	95.8%
316	INSTRUMENT LAB	1,000	30	33	4.50	35.6%	22.5%
400	CAD LAB	1,482	24	62	2.50	70.8%	12.5%
402	DRAFTING LAB	1,495	26	58	8.50	39.2%	42.5%
403	DRAFTING LAB	1,495	32	47	2.67	43.8%	13.3%
413	POLICE SCI LAB	792	20	40	10.25	120.0%	51.2%
500	COMPUTER LAB	738	14	53	11.00	71.4%	55.0%
501	COMPUTER LAB	834	18	46	8.33	87.0%	41.7%
504	CAD LAB	1,413	28	50	14.33	41.1%	71.7%
505	DRAFTING LAB	1,417	32	44	12.50	36.7%	62.5%
506	METALS LAB	2,652	30	88	4.33	43.3%	21.7%
509	WELDING LAB	3,093	30	103	4.33	30.0%	21.7%
511	DRAFTING LAB	1,413	32	44	3.33	18.8%	16.7%
513	DRAFTING LAB	1,413	30	47	12.50	33.3%	62.5%
601	CHEMISTRY LAB	1,440	32	45	2.50	43.8%	12.5%
603	CHEMISTRY LAB	1,440	20	72	2.50	50.0%	12.5%
610	MEDICAL TECHNOLOGY	1,480	16	93	1.00	56.3%	5.0%
612	MEDICAL TECHNOLOGY	1,480	16	93	3.33	115.6%	16.7%
707	FUEL GAS LAB	1,233	15	82	10.67	95.6%	53.3%
711	ORGANIC CHEMISTRY	1,850	30	62	7.50	44.7%	37.5%
717	CHEMISTRY LAB	1,800	30	60	5.00	48.3%	25.0%
	Class Lab Total	51,565	889				
	Bretschger Total	66,755	1,743				

Table 6.3 - North Campus (continued)

Room No.	Room Description	Room Area (NASF)	No. of Stations	SF per Seat	No. of Hours Scheduled in Week	Percent Seats Occupied	Percent Hours Scheduled
North Campus							
Evening Courses							
Gleasner Hall							
211	CAREER PLANNING	472			3.33		16.7%
	Classroom Total	472					
	Gleasner Hall Total	472					
Kittinger Hall							
100	LECTURE HALL	2,930	238	12	4.17	22.3%	20.8%
115	CLASSROOM	480	32	15	5.00	75.0%	25.0%
117	CLASSROOM	480	32	15	2.50	115.6%	12.5%
118	CLASSROOM	448	32	14	7.08	52.1%	35.4%
126	CLASSROOM	480	32	15	2.08	21.9%	10.4%
127	CLASSROOM	480	32	15	7.50	81.3%	37.5%
128	CLASSROOM	480	32	15	2.50	46.9%	12.5%
130	CLASSROOM	480	32	15	11.67	69.5%	58.3%
131	CLASSROOM	480	32	15	5.00	65.6%	25.0%
132	CLASSROOM	480	32	15	4.50	57.3%	22.5%
133	CLASSROOM	480	32	15	7.50	85.4%	37.5%
134	CLASSROOM	480	32	15	2.50	31.3%	12.5%
135	CLASSROOM	480	32	15	5.83	68.8%	29.2%
136	CLASSROOM	480	32	15	6.67	64.1%	33.3%
137	CLASSROOM	488	32	15	3.17	31.3%	15.8%
138	CLASSROOM	480	32	15	3.33	50.0%	16.7%
156	CLASSROOM	610	25	24	5.17	52.0%	25.8%
162	CLASSROOM	660	41	16	2.50	75.6%	12.5%
163	CLASSROOM	600	37	16	8.50	63.5%	42.5%
213	CLASSROOM	480	32	15	10.00	42.7%	50.0%
214	CLASSROOM	480	32	15	6.67	48.4%	33.3%
215	CLASSROOM	480	32	15	10.00	64.8%	50.0%
216	CLASSROOM	480	32	15	3.33	28.1%	16.7%
223	CLASSROOM	420	32	13	5.00	75.0%	25.0%
226	CLASSROOM	480	32	15	4.17	34.4%	20.8%
229	CLASSROOM	480	32	15	7.50	66.7%	37.5%
230	CLASSROOM	480	32	15	7.50	59.4%	37.5%
232	CLASSROOM	480	32	15	10.00	71.9%	50.0%
233	CLASSROOM	480	32	15	5.83	46.9%	29.2%
234	CLASSROOM	480	32	15	10.00	75.0%	50.0%
235	CLASSROOM	480	32	15	3.33	28.1%	16.7%
236	CLASSROOM	480	32	15	1.67	32.8%	8.3%
237	CLASSROOM	492	32	15	8.42	47.5%	42.1%
259	STUDY ROOM	650	24	27	6.67	58.3%	33.3%
	Classroom Total	19,298	1,293				
155	PHYSICS LAB	600	32	19	2.50	53.1%	12.5%
160	PHYSICS LAB	990	24	41	7.50	55.6%	37.5%
238	COMPUTER LAB	480	20	24	1.58	55.0%	7.9%
255	LANGUAGE LAB	874	30	29	10.83	35.8%	54.2%
256	BIOLOGY LAB	1,200	16	75	7.50	110.4%	37.5%
260	BIOLOGY LAB	1,200	16	75	10.00	137.5%	50.0%
261	NURSING LAB	1,227	24	51	5.00	85.4%	25.0%
	Class Lab Total	6,571	162				
	Kittinger Hall Total	25,869	1,455				
Spring Student Center							
100	DENTAL CLINIC	5,432	36	151	12.00	68.1%	60.0%
134	STATLER FOOD LAB	1,891	24	79	30.00	62.5%	150.0%
	Class Lab Total	7,323	60				
	Spring Student Center Total	7,323	60				
North Campus Evening Course Total		**101,659**	**3,314**				

Table 6.4 - South Campus

Room No.	Room Description	Room Area (NASF)	No. of Stations	SF per Seat	No. of Hours Scheduled in Week	Percent Seats Occupied	Percent Hours Scheduled
South Campus							
Day Courses							
Building 2							
2103F	CLASSROOM	1,064	25	43	10.00	47.3%	25.0%
2106	CLASSROOM	605	38	16	20.00	34.9%	50.0%
2111	CLASSROOM	512	32	16	4.83	31.3%	12.1%
2116B	SMART CLASSROOM	1,360	32	43	17.50	44.7%	43.8%
2210	CLASSROOM	503	32	16	24.17	66.9%	60.4%
2215	CLASSROOM	462	12	39	4.17	69.4%	10.4%
	Classroom Total	3,442	146				
2103G	COMPUTER LAB	840	12	70	24.17	110.4%	60.4%
2110	COMP/ELECTR LAB	1,887	32	59	24.67	56.4%	61.7%
2114A	CLASS LAB	665	28	24	11.83	64.6%	29.6%
2114B	CLASS LAB	886	22	40	4.17	52.3%	10.4%
2116	RECREATION LAB	1,887	26	73	25.00	69.8%	62.5%
2119	COMPUTER LAB	1,164	14	83	33.50	74.7%	83.8%
2121	PRESS ROOM	2,400	16	150	10.00	66.7%	25.0%
2122	AUTOBODY SHOP	5,146	12	429	18.33	70.0%	45.8%
2204	DRAFTING LAB	500	16	31	15.83	100.0%	39.6%
2205	CAD LAB	631	8	79	23.33	167.7%	58.3%
2209	DRAFTING LAB	1,884	16	118	15.00	87.5%	37.5%
2212	DENTAL TECH LAB	1,268	15	85	9.00	114.7%	22.5%
2212C	DENTAL TECH LAB	646	18	36	2.67	69.4%	6.7%
2216	DRAFTING LAB	1,866	16	117	17.50	90.6%	43.8%
2217	DENTAL TECH LAB	1,861	24	78	42.67	76.4%	106.7%
2221	DRAFTING LAB	1,866	16	117	14.17	68.8%	35.4%
2223	ART STUDIO	1,861	16	116	23.33	87.0%	58.3%
	Class Lab Total	26,418	295				
	Building 2 Total	29,860	441				
Building 3							
3101	CLASSROOM	478	32	15	15.83	68.1%	39.6%
3104	CLASSROOM	978	50	20	22.50	45.2%	56.3%
3113	CLASSROOM	489	32	15	23.00	229.4%	57.5%
3128	CLASSROOM	503	32	16	21.00	87.3%	52.5%
3129	CLASSROOM	512	32	16	20.50	74.2%	51.3%
3214	CLASSROOM	499	32	16	22.50	70.7%	56.2%
3215	CLASSROOM	503	32	16	20.00	73.1%	50.0%
3221	CLASSROOM	503	32	16	20.00	83.2%	50.0%
3222	CLASSROOM	503	32	16	15.00	70.5%	37.5%
3124	CLASSROOM	1,015	50	20	22.00	49.1%	55.0%
3126	CLASSROOM	503	32	16	12.67	68.8%	31.7%
3227	CLASSROOM	669	33	20	26.67	88.3%	66.7%
3228	CLASSROOM	669	30	22	23.83	82.7%	59.6%
	Classroom Total	7,824	451				
3106	LIFE SCIENCE LAB	967	24	40	24.17	74.4%	60.4%
3110	EMERGENCY MED LAB	985	25	39	18.00	240.0%	45.0%
3122	BIOLOGY LAB	1,037	16	65	27.50	122.3%	68.8%
3125	ANATOMY LAB	1,023	16	64	25.00	123.1%	62.5%
3127	GENERAL BIOLOGY LAB	1,020	16	64	24.25	95.8%	60.6%
3203	CHEMISTRY LAB	1,197	16	75	7.50	75.0%	18.7%
3204	PHYSICS LAB	917	16	57	8.67	65.6%	21.7%
3208	PHYSICS LAB	907	16	57	22.00	127.6%	55.0%
3209	GEN CHEMISTRY LAB	1,197	16	75	7.50	85.4%	18.8%
3210	PHYSICS LAB	907	16	57	14.00	138.3%	35.0%
3219	ANALYTICAL LAB	1,197	6	200	2.50	216.7%	6.3%
3225	CHEMISTRY LAB	1,197	16	75	2.50	56.3%	6.3%
	Class Lab Total	12,551	199	867			
	Building 3 Total	20,375	650	867			

Table 6.4 - South Campus (continued)

Room No.	Room Description	Room Area (NASF)	No. of Stations	SF per Seat	No. of Hours Scheduled in Week	Percent Seats Occupied	Percent Hours Scheduled
South Campus							
Day Courses							
Building 4							
4101	CLASSROOM	635	32	20	23.33	72.9%	58.3%
4114	CLASSROOM	874	32	27	21.67	70.0%	54.2%
4121	CLASSROOM	503	32	16	27.50	81.3%	68.7%
4122	CLASSROOM	503	32	16	25.00	68.1%	62.5%
4125	CLASSROOM	500	32	16	24.83	75.3%	62.1%
4201	CLASSROOM	379	24	16	17.50	89.7%	43.7%
4202	CLASSROOM	503	32	16	30.58	67.3%	76.5%
4203	CLASSROOM	503	32	16	27.50	66.5%	68.7%
4204	CLASSROOM	501	32	16	30.00	78.6%	75.0%
4205	CLASSROOM	512	32	16	25.00	72.4%	62.5%
4206	CLASSROOM	503	32	16	22.50	55.0%	56.2%
4213	CLASSROOM	503	32	16	22.50	60.9%	56.2%
4216	CLASSROOM	371	24	15	14.17	81.7%	35.4%
4227	CLASSROOM	507	22	23	12.50	95.1%	31.2%
	Classroom Total	7,297	422				
4103	TYPING LAB	975	32	30	20.83	71.5%	52.1%
4107	SHORTHAND LAB	975	32	30	28.33	60.3%	70.8%
4117	COMPUTER LAB	975	32	30	14.67	30.0%	36.7%
4120	TYPING LAB	975	32	30	18.75	57.9%	46.9%
4207	COMPUTER LAB	475	18	26	19.50	98.0%	48.8%
4210	COMPUTER LAB	875	19	46	18.42	81.8%	46.0%
4218	COMPUTER LAB	681	25	27	7.33	38.0%	18.3%
4220	COMPUTER LAB	975	25	39	22.17	74.9%	55.4%
4223	COMPUTER LAB	975	24	41	21.50	76.0%	53.8%
	Class Lab Total	7,881	239				
	Building 4 Total	15,178	661				
Building 5							
5101	LECTURE HALL 1	3,039	150	20	17.50	21.7%	43.7%
5102	LECTURE HALL 2	3,039	150	20	25.00	23.9%	62.5%
	Classroom Total	6,078	300				
5115	MEDIA LAB	807	32	25	30.33	38.3%	75.8%
5118	COMPUTER LAB	519	32	16	21.33	28.1%	53.3%
	Class Lab Total	1,326	64				
	Building 5 Total	7,404	364				
Building 6							
6202	CLASSROOM	472	32	15	10.00	79.1%	25.0%
	Classroom Total	472	32				
6101	GYMNASIUM	12,191	50	244	18.33	24.1%	45.8%
6207	EXCERCISE ROOM	1,099	40	27	3.33	31.3%	8.3%
6209	DANCE STUDIO	1,293	40	32	5.00	29.2%	12.5%
	Class Lab Total	14,583	130				
	Building 6 Total	15,055	162				
South Campus Day Course Total		**87,872**	**2,278**				

Table 6.4 - South Campus (continued)

Room No.	Room Description	Room Area (NASF)	No. of Stations	SF per Seat	No. of Hours Scheduled in Week	Percent Seats Occupied	Percent Hours Scheduled
South Campus							
Evening Courses							
Building 2							
2106	CLASSROOM	605	38	16	5.00	22.8%	25.0%
2210	CLASSROOM	503	32	16	15.00	56.3%	75.0%
2215	CLASSROOM	462	12	39	3.33	62.5%	16.7%
	Classroom Total	1,570	82				
2103G	COMPUTER LAB	840	12	70	10.83	66.7%	54.2%
2110	COMP/ELECTR LAB	1,887	32	59	8.33	36.3%	41.7%
2114B	CLASS LAB	886	22	40	2.50	50.0%	12.5%
2116	RECREATION LAB	1,887	26	73	7.50	65.4%	37.5%
2119	COMPUTER LAB	1,164	14	83	6.67	75.0%	33.3%
2121	PRESS ROOM	2,400	16	150	6.67	56.3%	33.3%
2122	AUTOBODY SHOP	5,146	12	429	12.00	75.0%	60.0%
2204	DRAFTING LAB	500	16	31	6.67	50.0%	33.3%
2205	CAD LAB	631	8	79	2.50	175.0%	12.5%
2209	DRAFTING LAB	1,884	16	118	7.50	65.6%	37.5%
2212	DENTAL TECH LAB	1,268	15	85	2.50	40.0%	12.5%
2216	DRAFTING LAB	1,866	16	117	16.67	75.0%	83.3%
2223	ART STUDIO	1,861	16	116	3.50	81.3%	17.5%
	Class Lab Total	21,380	209				
	Building 2 Total	22,950	291				
Building 3							
3104	CLASSROOM	978	50	20	12.00	16.0%	60.0%
3113	CLASSROOM	489	32	15	9.00	40.6%	45.0%
3124	CLASSROOM	1,015	50	20	18.00	132.0%	90.0%
3126	CLASSROOM	503	32	16	8.83	92.2%	44.2%
3128	CLASSROOM	503	32	16	5.00	76.6%	25.0%
3129	CLASSROOM	512	32	16	5.83	77.1%	29.2%
3215	CLASSROOM	503	32	16	2.50	87.5%	12.5%
3221	CLASSROOM	503	32	16	6.67	37.5%	33.3%
3222	CLASSROOM	503	32	16	2.50	78.1%	12.5%
3227	CLASSROOM	669	33	20	6.67	53.5%	33.3%
3228	CLASSROOM	669	30	22	2.50	86.7%	12.5%
	Classroom Total	6,847	387				
3106	LIFE SCIENCE LAB	967	24	40	11.67	80.0%	58.3%
3110	EMERGENCY MED LAB	985	25	39	18.00	220.0%	90.0%
3122	BIOLOGY LAB	1,037	16	65	7.50	104.2%	37.5%
3125	ANATOMY LAB	1,023	16	64	17.50	142.9%	87.5%
3127	GENERAL BIOLOGY LAB	1,020	16	64	3.33	125.0%	16.7%
3208	PHYSICS LAB	907	16	57	2.50	81.3%	12.5%
3209	GEN CHEMISTRY LAB	1,197	16	75	7.50	79.2%	37.5%
3210	PHYSICS LAB	907	16	57	2.50	168.8%	12.5%
	Class Lab Total	8,043	145				
	Building 3 Total	14,890	532				

Table 6.4 - South Campus (continued)

Room No.	Room Description	Room Area (NASF)	No. of Stations	SF per Seat	No. of Hours Scheduled in Week	Percent Seats Occupied	Percent Hours Scheduled
South Campus							
Evening Courses							
Building 4							
4101	CLASSROOM	635	32	20	5.00	31.3%	25.0%
4114	CLASSROOM	874	32	27	9.17	35.0%	45.8%
4121	CLASSROOM	503	32	16	2.50	68.8%	12.5%
4122	CLASSROOM	503	32	16	5.00	64.1%	25.0%
4125	CLASSROOM	500	32	16	10.00	79.7%	50.0%
4202	CLASSROOM	503	32	16	7.50	56.3%	37.5%
4203	CLASSROOM	503	32	16	5.00	62.5%	25.0%
4204	CLASSROOM	501	32	16	5.00	67.2%	25.0%
4205	CLASSROOM	512	32	16	10.00	39.8%	50.0%
4206	CLASSROOM	503	32	16	5.00	67.2%	25.0%
4213	CLASSROOM	503	32	16	10.00	57.0%	50.0%
4227	CLASSROOM	507	22	23	7.50	39.4%	37.5%
	Classroom Total	6,547	374				
4107	SHORTHAND LAB	975	32	30	12.50	55.0%	62.5%
4117	COMPUTER LAB	975	32	30	5.83	32.8%	29.2%
4120	TYPING LAB	975	32	30	2.50	71.9%	12.5%
4207	COMPUTER LAB	475	18	26	12.50	119.4%	62.5%
4210	COMPUTER LAB	875	19	46	6.67	49.1%	33.3%
4220	COMPUTER LAB	975	25	39	4.17	36.0%	20.8%
4223	COMPUTER LAB	975	24	41	9.00	54.2%	45.0%
	Class Lab Total	6,225	182				
	Building 4 Total	12,772	556				
Building 5							
5101	LECTURE HALL 1	3,039	150	20	2.50	8.0%	12.5%
5102	LECTURE HALL 2	3,039	150	20	7.50	17.1%	37.5%
	Classroom Total	6,078	300				
5118	COMPUTER LAB	519	32	16	16.00	51.6%	80.0%
	Class Lab Total	519	32				
	Building 5 Total	6,597	332				
Building 6							
6207	EXCERCISE ROOM	1,099	40	27	1.67	32.5%	8.3%
	Class Lab Total	1,099	40				
	Building 6 Total	1,099	40				
South Campus Evening Course Total		**58,308**	**1,751**				

City Campus Summary

During the day at the City Campus, 84 percent of the spaces did not meet the hourly utilization targets. Only 17 percent of classrooms even came within 15 percent of the target, which equates to only 24 hours out of the 40 hours available per week during the day. This indicates that the majority of the spaces were not adequately scheduled. Almost 70 percent of the spaces fell short of the seat fill target.

Utilization during the evening mimicked the day results with slightly higher percentages of spaces falling short of the target criteria.

Although Old Post Office class labs appear to be meeting or exceeding the target criteria for seat fill and hourly utilization better than 45 Oak Street and the Athletic Center, overall the data indicates that the campus as a whole is falling short of meeting the target criteria for both classrooms and class labs.

North Campus Summary

During the day at the North Campus, 83 percent of the spaces did not meet the hourly utilization targets. Even when including the classrooms that came within 15 percent of the daytime target, only 12 percent of the spaces were sufficiently scheduled. Almost 70 percent of the spaces fell short of the seat fill target.

Utilization during the evening mimicked the day figures with the majority of the spaces being used well below the targets.

South Campus Summary

At the South Campus, 78 percent of the rooms fell short of the hourly utilization targets during the day and 83 percent fell short during the evening, indicating the majority of the rooms were not being scheduled to their potential. Only 9 percent of classrooms even came within 15 percent of the daytime target, which equates to only 24 hours out of the 40 hours available per week. About 60 percent of spaces for both day and evening failed to meet the seat fill target.

The percentage of hours scheduled during both the day and evening were slightly better than City and North Campus, but still the majority of spaces fell short of the utilization targets.

Utilization Tables Conclusions

There appears to be capacity to accommodate additional courses in the schedule at all campuses. Most faculty feels there are not enough classrooms, making scheduling courses difficult. This may be due more to the effects on non-uniform class start and stop times than to a lack of classroom space. Although class start times appear to be fairly standard, there are many non-uniform class stop times. Scheduling variations like these are likely made to accommodate individual faculty and course needs, but they make it difficult to establish an efficient schedule for students. The effect of excessive non-uniform class end times throughout the week means that a class may use a room beyond the next regular start time, thereby preventing another class from being scheduled at that time. This results in lower utilization rates for the affected classrooms. A standardized schedule makes it easier to maximize the use of instructional space because more course meetings can be fit into a single room over the course of a day.

Scheduled Class Size Compared to Room Capacity

According to the PSI, the vast majority of ECC's classrooms have enough seats to accommodate 30 or more students. However, few of these rooms are actually large enough to properly accommodate that many seats. For example, on the North Campus, 46 classrooms (72 percent of all classrooms) reportedly accommodate 31 to 40 students, but the Physical Space Inventory reveals that the majority of these classrooms are not large enough to accommodate this many seats, even at 16 square foot per seat. The majority of the classrooms on the North and South Campuses have fewer than 20 square feet allotted to each student station.

Ideally, there should be an alignment between the number and capacity (number of seats) of the instructional spaces on a campus and the number and size (enrollment) of course sections the college offers. Figures 6.5 to 6.7 illustrate the degree to which class enrollment correlated to room size during the fall 2012 semester.

The dark green highlights the number of course meetings where the class enrollment was appropriate for the room size. For example, in Figure 6.5 there are 92 course meetings with an enrollment of 21 to 30 that are scheduled in classrooms with seating for 21 to 30 students.

Light green highlighting indicates the number of course meetings that were scheduled in rooms marginally larger than the class enrollment, which can be beneficial in classrooms because it allows for more flexibility to accommodate different teaching pedagogies, such as collaborative learning.

Red highlights course meetings that occurred in rooms that were significantly larger, or smaller, than the class enrollment. For example, at City Campus (Figure 6.5), where 770 course meetings were scheduled in 42 classrooms, 42 percent of all courses were held in rooms that were significantly larger than the enrollment. Fifty-five percent of the course meetings were scheduled in classrooms appropriate or marginally larger than class enrollment. This suggests that some of the existing classroom inventory could be resized to better fit course section sizes.

Figure 6.5 - ECC City Campus

	Scheduled Class Size (Enrollment)					
Classroom Seating Capacity	1 to 10	11 to 20	21 to 30	31 to 40	41 to 50	Room Count
1 to 10	1	4				1
11 to 20	8	17	5			2
21 to 30	16	54	92	14		9
31 to 40	23	171	201	43		25
41 to 50	18	36	35	7	0	4
71 to 80	5	6	8	6		1
Total Course Meetings = 770	71	288	341	70	0	42

	Scheduled Class Size (Enrollment)					
Class Lab Seating Capacity	1 to 10	11 to 20	21 to 30	31 to 40	41 to 50	Room Count
1 to 10	4					1
11 to 20	22	27	34	4		6
21 to 30	12	109	80	0		14
31 to 40	10	47	45	2	2	6
41 to 50	5				0	1
Total Course Meetings = 403	53	183	159	6	2	28

Figure 6.6 - ECC South Campus

Classroom Seating Capacity	Scheduled Class Size (Enrollment) 1 to 10	11 to 20	21 to 30	31 to 40	41 to 50	51 to 60	61 to 70	71 to 80	Room Count
11 to 20	4	1							1
21 to 30	13	22	48						6
31 to 40	58	131	290	67				1	25
41 to 50	14	4	31	0	0				2
126 to 150	1	6	5	23	8		2		2
Total Course Meetings = 729	90	164	374	90	8	0	2	1	36

Class Lab Seating Capacity	Scheduled Class Size (Enrollment) 1 to 10	11 to 20	21 to 30	31 to 40	41 to 50	51 to 60	61 to 70	71 to 80	Room Count
1 to 10	2	12							2
11 to 20	59	122	54	2					22
21 to 30	27	63	32	0					9
31 to 40	29	70	44	3					9
41 to 50	5	10							1
Total Course Meetings = 534	122	277	130	5	0	0	0	0	43

Figure 6.7- ECC North Campus

Classroom Seating Capacity	Scheduled Class Size (Enrollment) 1 to 10	11 to 20	21 to 30	31 to 40	41 to 50	51 to 60	Room Count
21 to 30	12	63	41	15			9
31 to 40	85	282	516	144	16		46
41 to 50	3	12	17	5	0		2
61 to 70	3	0	10	0	4	0	2
101 to 125	4	9	6	2	2	0	1
226 to 250	11	5	8	14	11	4	3
351 to 400	2	0	2				1
Total Course Meetings = 1,308	120	371	600	180	33	4	64

Class Lab Seating Capacity	Scheduled Class Size (Enrollment) 1 to 10	11 to 20	21 to 30	31 to 40	41 to 50	51 to 60	Room Count
1 to 10	20	12					3
11 to 20	73	172	45	6			25
21 to 30	75	195	34	7			28
31 to 40	18	44	30	10			11
51 to 60	0	8	1		0	0	1
226 to 250	1	9					1
Total Course Meetings = 760	187	440	110	23	0	0	69

*Excludes G211 - no seat data available - 17 total classroom course meetings excluded

Right-Sizing Classrooms

Overall, the data suggests that many of the classrooms and class labs on all three campuses are underutilized and the classrooms are not well suited to ECC's section enrollment sizes. The data also suggest that if course enrollment patterns remain the same, seats should be removed from many of the classrooms to provide more space per student, especially in the 21 to 30 seat category.

Figure 6.8 - ECC North Campus Right-Sized

	Scheduled Class Size (Enrollment)					
Classroom *Right-Sized* Seating Capacity	1 to 10	11 to 20	21 to 30	31 to 40	41 to 50	Room Count
1 to 10	0					0
11 to 20	0	0				0
21 to 30	84	293	509	127	13	45
31 to 40	5	42	47	7		8
61 to 70	7	17	0	0		2
71 to 80	4	5	18	30	3	2
Total Course Meetings = 1,211	100	357	574	164	16	57

Figure 6.8 represents what the seating capacity would be if the square footage per station in the North Campus' classrooms was appropriately sized. The seating capacity of classrooms was adjusted based on the recommended 20 square feet per seat. Lecture halls were excluded because many have fixed seats so the area per student cannot easily be modified.

This illustrates that simply right-sizing classrooms by adjusting the type and number of seats in the room would result in better alignment between seating capacity and current course enrollments.

However, due largely to faculty constraints, the College has made an effort to increase enrollment to 32 students in many classroom/lecture courses. Many of the existing classrooms are too small to accommodate that number of students comfortably, but seats have been added to a large number of rooms to house the larger sections. In the room shown in Figure 6.9, the 32 tablet arm chairs are so close together that many students have trouble moving between them. The proximity of the workstations also becomes a problem during tests when students are sitting so close to one another. However, as illustrated in the space utlilzation tables, ECC's average class size remains at roughly 22 students.

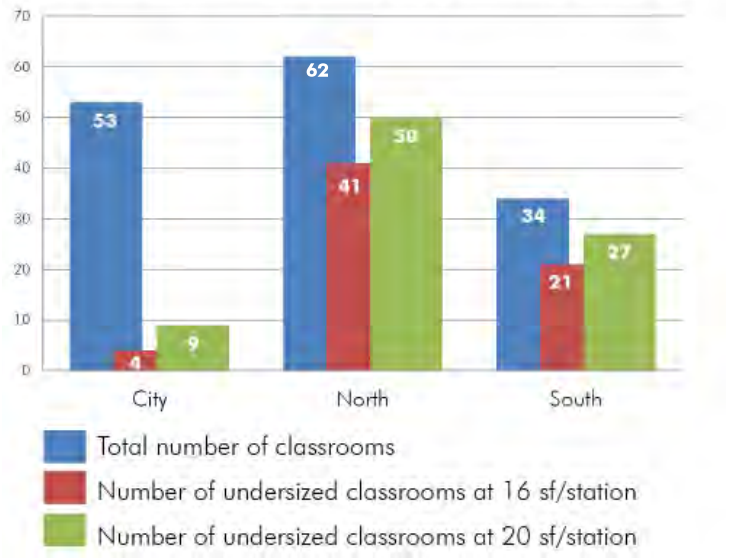
Another issue is that today's adult students have a tendency to be larger than students were in the 1960s. Many find tablet arm chairs extremely uncomfortable and some cannot fit into them at all. In addition, students with disabilities often cannot be accommodated in tablet arm chairs. The College addresses these issues by providing individual tables when necessary, but these take up more space than a tablet arm chair. When two or more larger tables are placed in a room, it can become extremely crowded when the same number of seats must be maintained to accommodate course enrollments.

Increasing the number of seats in classrooms has led to overcrowding in many rooms, particularly on ECC's North and South Campuses. One of the primary complaints from faculty is that classrooms are overcrowded, making teaching and learning difficult. At the North Campus, 60 percent of the classrooms have an area of 480 square feet. Even at 16 square foot per student, the rooms could minimally accommodate 30 students. However, almost all of these classrooms reportedly contain 31 or more seats (based on the College's Physical Space Inventory-PSI).

Figure 6.9 summarizes what would happen if the existing classrooms on all three campuses were "right-sized" to reflect the recommended number of square feet per student seat.

- The blue bars indicate the total number of classrooms at each campus.
- The red bars represent the number of classrooms that are undersized, or too small to accommodate the number of seats in the room per the PSI, even at 16 square feet per seat.
- The green bars identify the number of classrooms that would be undersized if the student stations were "right-sized" to provide the recommended minimum of 20 square feet per seat.

Figure 6.9 - Number of Undersized Classrooms by Campus[2]



For the most part, the number of seats in the classrooms at City Campus appears to be appropriate to the size of the rooms. At South and North, however, a large portion of the classrooms have too many seats for the room area, even using 16 square feet per seat in the calculation. On both campuses, if 20 square feet per seat were provided and the number of seats remained the same, roughly 80 percent of the classrooms would be considered overcrowded.

2 Source data for Figure 6.10 is from the ECC Physical Space Inventory. It may vary slightly from the data captured from the F12 Course Schedule, which is the source of data for Figures 6.5 - 6.8.

This mismatch would be problematic if the majority of courses had enrollments that matched the number of seats that have been placed in classrooms. The analysis of instructional space revealed that the **average enrollment** in courses held in classrooms in fall 2012 was as follows:

North Campus:	22 students per class
City Campus:	20 students per class
South Campus:	22 students per class

This indicates that the College has enough classrooms to accommodate courses with 24 students or less, even when the rooms are right-sized to 20 square feet per station. The 480 square foot classrooms on the North Campus could easily accommodate 24 seats at 20 square feet per station. However, there are not a sufficient number of classrooms to accommodate larger course sections on the North and South Campuses, especially if seats are right-sized. Given the outlook for funding, it may be necessary for course enrollment sizes to increase if faculty members who retire are not replaced.

Distribution of Course Meetings by Time of Day

Figures 6.10 to 6.12 display day-by-day classroom occupancy of the instructional spaces in use during week 6. They show room occupancy by half-hour blocks, thereby graphically depicting the peaks and valleys of the daily schedule. The impact of the "college hour" on Tuesday and Thursday between noon and 1:00 PM is evident. However, it is also clear from the graph that some courses are being scheduled during that time. There is a fall-off of course meetings on each campus typically around 3:30 PM Monday through Thursday, which is typical, especially at community colleges. Very few courses were scheduled on Friday afternoons, which is also typical. The graphs also show a second but smaller, evening peak between 5:30 PM and 7:30 PM at all three campuses. What is interesting to note is that the maximum number of course meetings held in the instructional spaces on each campus that were tracked are well below the total number of available instructional spaces. For example, on the North Campus (Figure 6.12), the maximum number of course meetings held in the 133 instructional spaces in the study never exceeds 101. Therefore, there are always at least 32 empty instructional spaces on campus. Some of these may be dedicated spaces such as labs, but the charts do indicate there is additional capacity to accommodate classes on each campus.

Figure 6.10

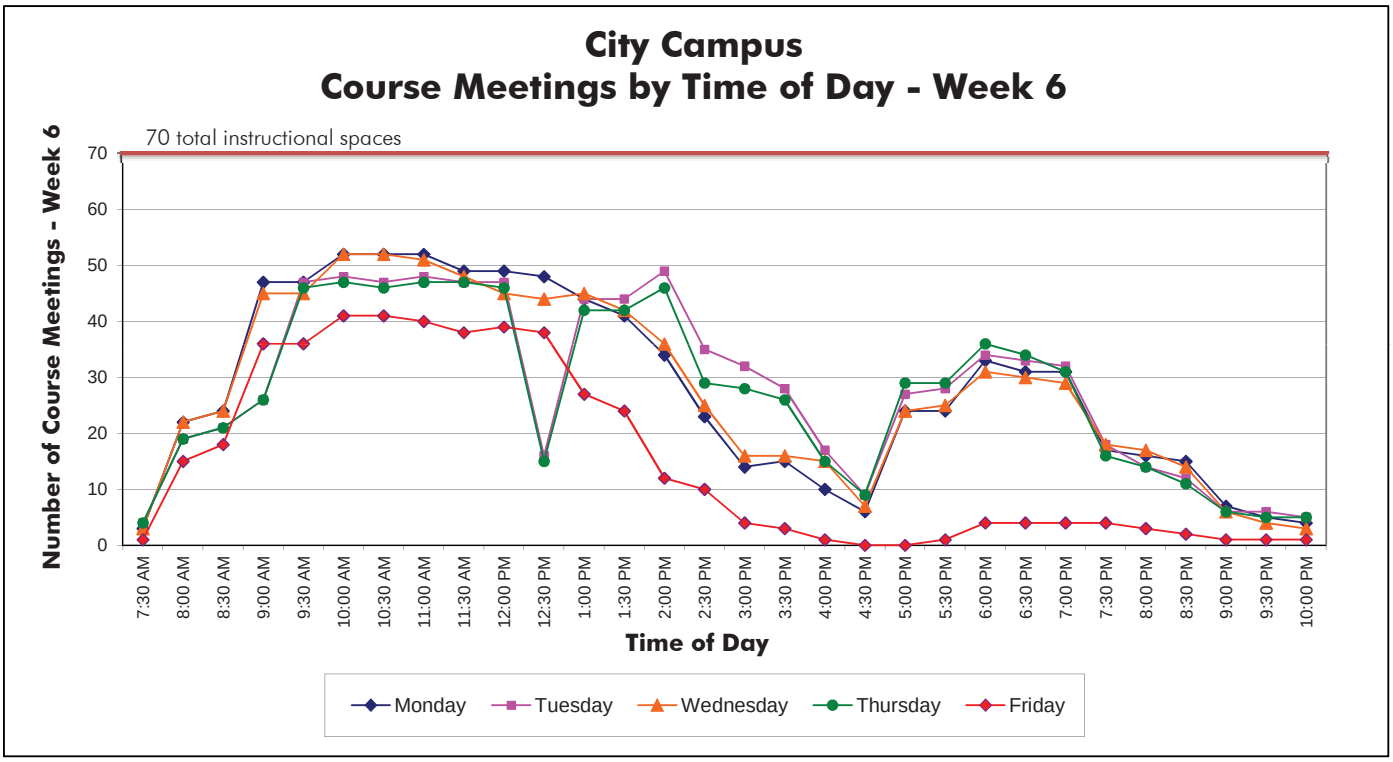


Figure 6.11

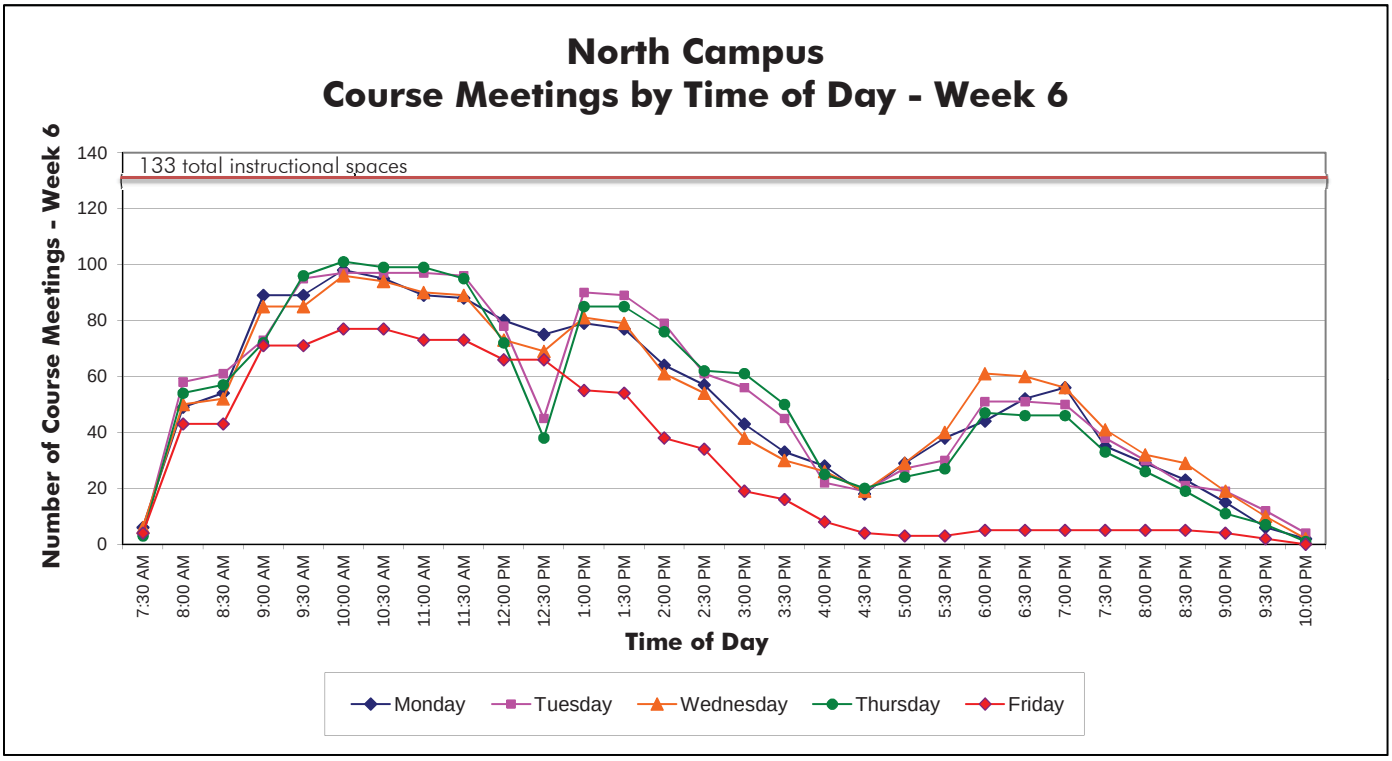
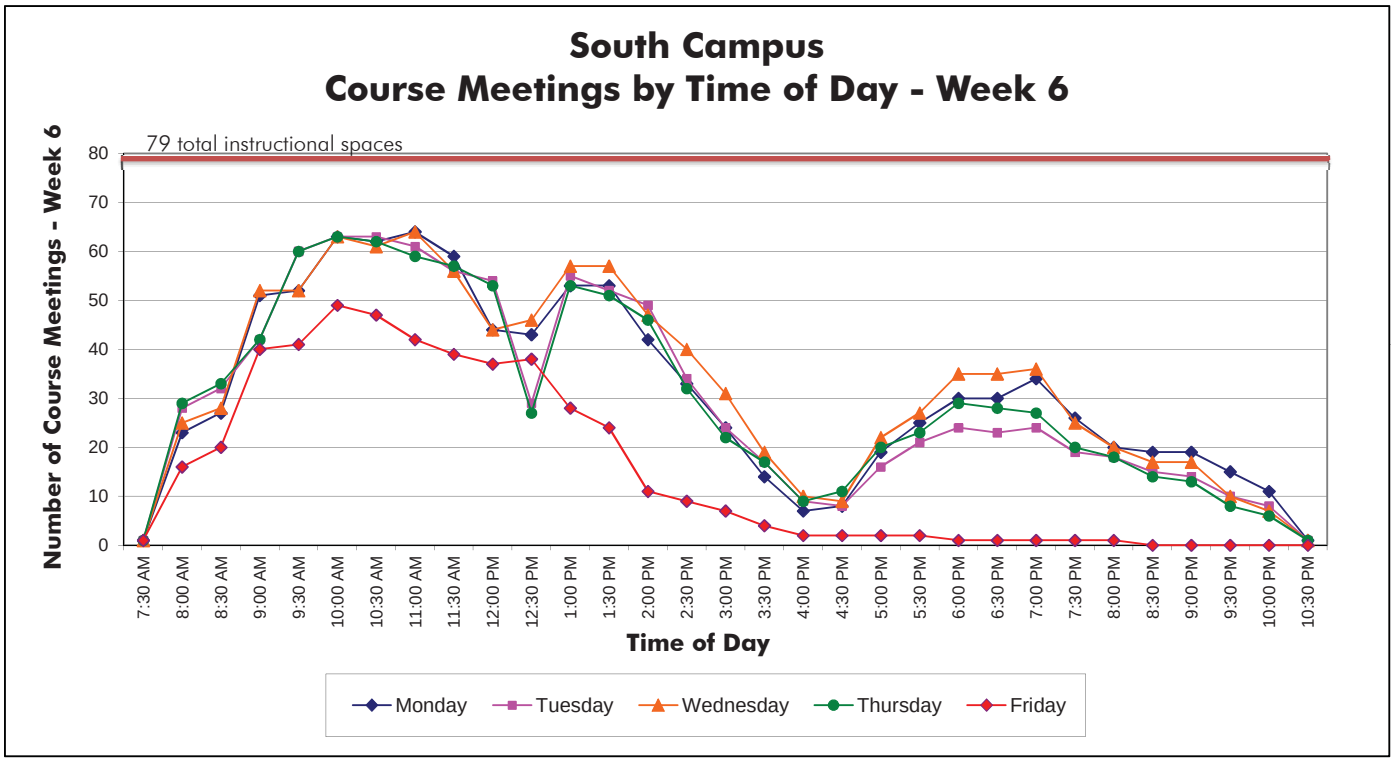


Figure 6.12



Space Utilization Conclusions and Recommendations

The results of the utilization analysis of the City, North, and South Campuses indicate that ECC is currently underutilizing available instructional space.

The utilization tables show that there is capacity to accommodate additional courses in the schedule. The College, as a whole, is generally falling short of meeting the target criteria for seat occupancy and hourly utilization.

The data also indicate a need for classrooms with seating capacities of 11 to 20 and 21 to 30 if section sizes remain in this range. Some of these classrooms could be created by right-sizing the existing classroom inventory. However, there is a need for properly sized classrooms to accommodate larger sections.

The good news is that the college has existing space that can be used to accommodate additional courses now and in the near future. In addition, if a more efficient scheduling system is adopted, some of the existing classroom space could be repurposed to provide space for other needs, such as adjunct faculty office, informal student gathering spaces, and student services.

Current Space Distribution

ECC currently has a total of 887,174 net assignable square feet (NASF) of space between its three campuses, distributed as follows:

- North Campus: 356,909 NASF (40.2 percent of all ECC space)
- City Campus: 269,844 NASF (30.4 percent)
- South Campus: 260,421 NASF (29.4 percent)

The State University of New York (SUNY) uses 15 specific categories to define space on college campuses. The table in Figure 6.13 provides a breakdown of ECC's space by SUNY category and by campus.

Figure 6.13 - Campus Space Inventory

Space Category	ECC Total NASF	Percent ECC Total Space	North Campus NASF	Percent North Campus Space	City Campus NASF	Percent City Campus Space	South Campus NASF	Percent South Campus Space
Instructional	438,407	49.4%	194,026	54.4%	98,817	36.6%	145,564	55.9%
Organized Research	0	0.0%	0	0.0%	0	0.0%	0	0.0%
Public Service	6,627	0.7%	0	0.0%	6,627	2.5%	0	0.0%
Organized Activity	0	0.0%	0	0.0%	0	0.0%	0	0.0%
Instructional Resources	11,574	1.3%	4,619	1.3%	1,471	0.5%	5,484	2.1%
Electronic Data Processing	4,803	0.5%	2,067	0.6%	2,736	1.0%	0	0.0%
Library	48,127	5.4%	33,184	9.3%	9,596	3.6%	5,347	2.1%
Health & Physical Education	143,318	16.2%	19,261	5.4%	89,607	33.2%	34,450	13.2%
Student/Faculty Activity	73,899	8.3%	27,027	7.6%	20,878	7.7%	25,994	10.0%
Student Health Services	4,013	0.5%	2,388	0.7%	877	0.3%	748	0.3%
Assembly & Exhibition	12,596	1.4%	6,554	1.8%	6,042	2.2%	0	0.0%
General Administration	79,487	9.0%	27,273	7.6%	21,957	8.1%	30,257	11.6%
Central Services	51,577	5.8%	34,243	9.6%	5,865	2.2%	11,469	4.4%
Building Services	5,432	0.6%	2,211	0.6%	2,113	0.8%	1,108	0.4%
Inactive Space	7,314	0.8%	4,056	1.1%	3,258	1.2%	0	0.0%
	887,174	100.0%	356,909	100.0%	269,844	100.0%	260,421	100.0%

The pie chart in Figure 6.14 is a graphical representation of the average space distribution at six of the largest New York State community colleges, including ECC. The other five colleges have enrollments and space totals comparable to ECC. Figures 6.15 through 6.18 present ECC's existing space, as shown in Figure 6.14, in the same format.

Figure 6.14 - Space Distribution, ECC and SUNY Community Colleges of Similar Size

Average space distribution of: Onondaga, Hudson Valley, Westchester, Erie, Monroe, Nassau

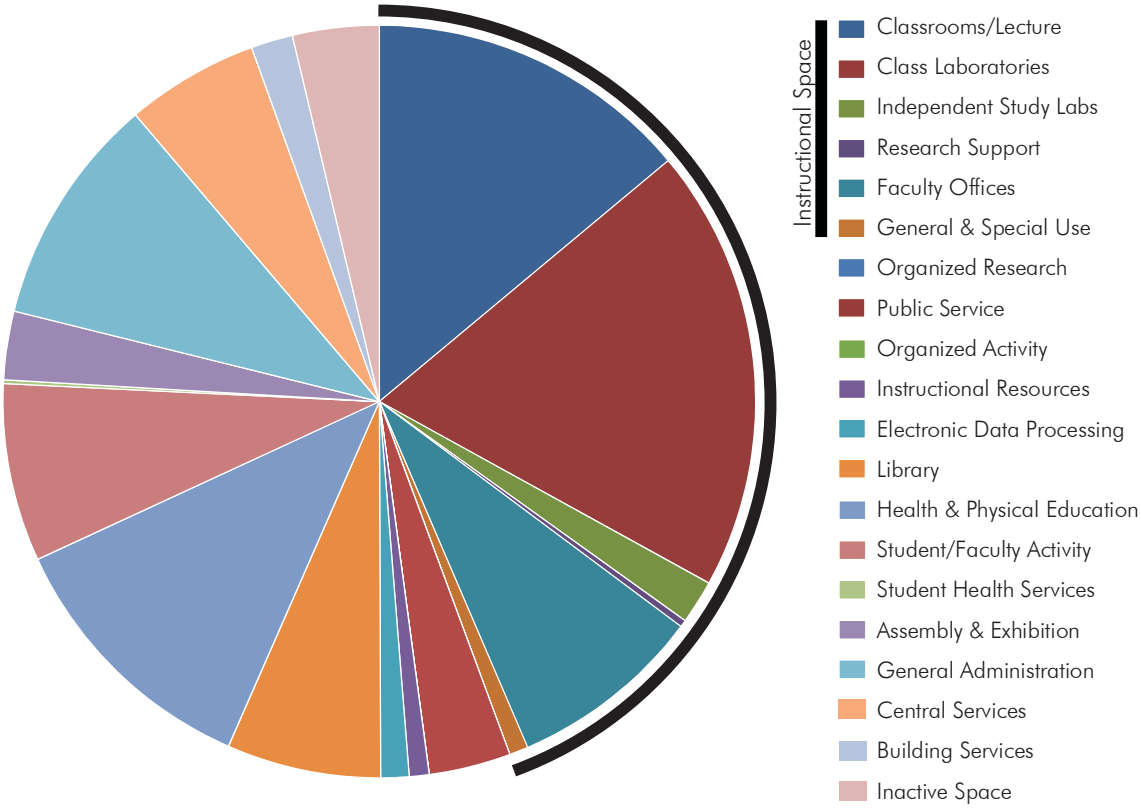


Figure 6.15 - Space Distribution, Combined Campuses

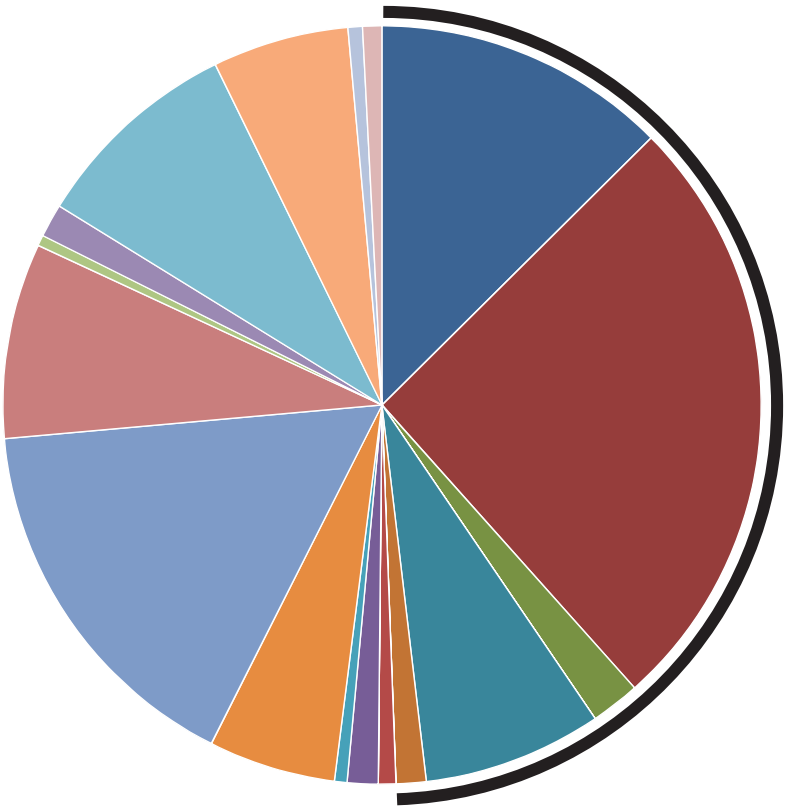


Figure 6.16 - Space Distribution, City Campus

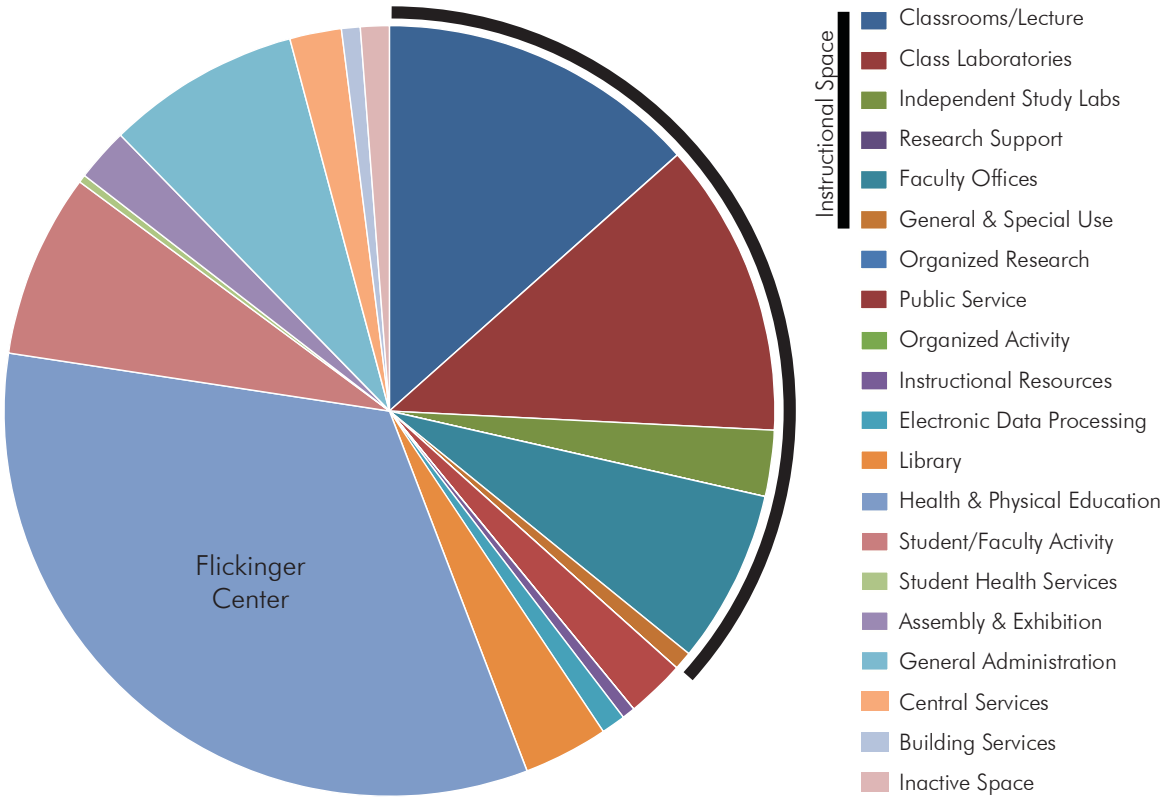


Figure 6.17 - Space Distribution, North Campus

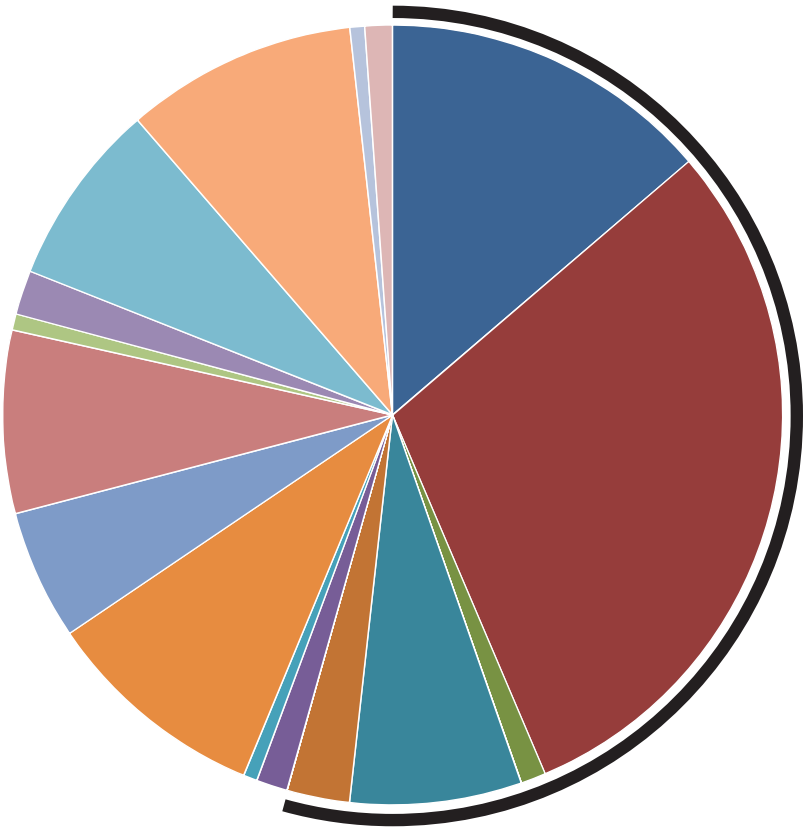
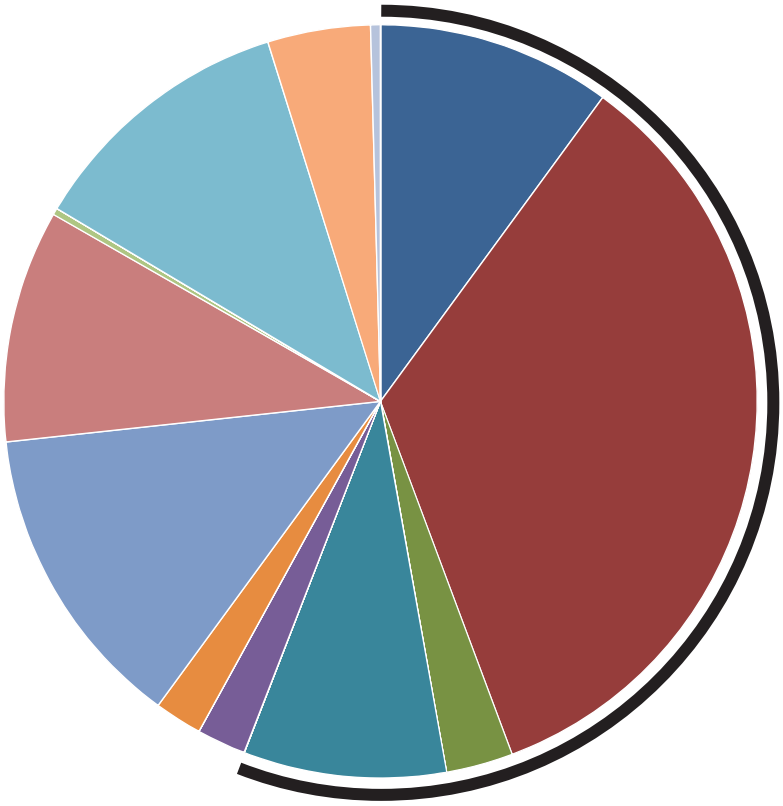


Figure 6.18 - Space Distribution, South Campus



On average, 44.4 percent of net assignable square feet at the six large campuses is dedicated to instructional space, which includes classrooms, class labs, faculty and academic staff offices, and related support space. Classrooms at these colleges, like the majority of community colleges in the state that were constructed in the 1960s and 1970s, were sized based on 16 NASF per student. As noted earlier in this section, 20 to 25 NASF is the current recommended standard. This provides sufficient space to accommodate new modes of teaching, technology in the classroom, and more comfortable seating for today's students.

If classrooms at the six large campuses were right-sized to 20 NASF per student, instructional space would represent closer to 46.2 percent of all campus space. That is still less, however, than the 54 percent and 56 percent instructional space occupies on the North and South Campuses, respectively. The reason for ECC's higher percentage of instructional space is largely due to the fact that a majority of the programs offered at the two campuses require large amounts of dedicated space that cannot easily be shared with other programs, such as Dental Hygiene and Architectural Technology. There are fewer of these space intensive programs offered at the City Campus. The North Campus houses many of ECC's high tech programs, such as CNC Precision Machining, Mechanical Technology, Industrial Technology, and Culinary Arts, which require a disproportionate amount of space.

The difference between the amounts of HPE space at each campus is striking. The large community colleges have an average of 11.5 percent of their space dedicated to Health and Physical Education (HPE). The Flickinger Center, a gift from the State to the College and the community, represents 16.2 percent of ECC's total space (89,600 net square feet). A comparison among the three campus indicates that HPE space is unevenly distributed, representing 5.4 percent of North Campus, 13.2 percent at South Campus, and 33.2 percent at City Campus. If City Campus did not have such a large percentage of its space tied to the Flickinger Center, its proportion of instructional space would appear much larger. North Campus, with roughly half of the total ECC population has significantly less HPE space than City or South Campus.

The data also indicate that overall ECC overall has less dedicated Library space than the average large NYS community college. North Campus has a proportionately larger share of this space, which means the City and South Campuses have less dedicated Library space than other community colleges. This is particularly apparent at City Campus where there are no group study rooms and an insufficient amount of student study space, in general.

Figure 6.19: Spalling exterior brick walls

Figure 6.20: Inefficient single-pane glazing

Figure 6.21: Classroom with outdated furnishings and poor lighting

New York's community colleges, the majority of which were built during the 1960s and 1970s, all face similar challenges when assessing their space needs. The issue is not always whether or not there is an adequate amount of space on campus; it must be space that is available and appropriate for the institution's needs. Changes in technology, pedagogy, and the type of programs that are offered at 21st century community colleges require investments in state-of-the-art, high-tech facilities and equipment to provide the quality education students demand.

Funding limitations have made it difficult for ECC to keep up with the repair and replacement of systems and components in their aging buildings. Poor facility conditions detract from the teaching and learning environment and reportedly have a negative impact on attraction and retention of students.

Current Facilities Conditions

Erie Community College has been a good steward of its facilities, but due to funding limitations the College has found it difficult to address all of the critical maintenance needs of its aging buildings and infrastructure. While a comprehensive facilities condition assessment was not part of this study, the consulting team did walk through all of the buildings on the three campuses. Deficiencies in the following areas were observed:

- Spalling of brick exterior walls was observed, especially on the South Campus. This is apparently due to water that has infiltrated exterior wall cavities. Repairs should be made to prevent additional deterioration of the wall systems.
- Single-pane windows that result in significant energy loss
- Aging interior finishes
- Outdated furnishings; much of the classroom furniture is inappropriate

for today's larger students and new teaching pedagogies.
- Poor interior lighting, particularly in classrooms
- According to staff, many ECC buildings require building system and component repair and/or replacement to ensure continued operation.
- Poor environmental controls result in uncomfortable conditions for building occupants, especially in classrooms at the North and South Campuses.

A comprehensive assessment of all buildings and systems should be conducted at all three campuses. Such a study is needed to help ECC prioritize capital investments and determine the amount of funding that will be needed to ensure the continued operation of its buildings and infrastructure.

Investment in improvements to the existing facilities will also contribute to the feeling that ECC offers a high quality education, thus helping to attract and retain students that might otherwise choose to attend college elsewhere.

Space Needs

The first portion of this section contains an in-depth discussion about the **quantity** of space at each of ECC's three campuses and how it is being used. This portion of the section focuses on the **quality** of that space, as well as the College's future space needs.

Does the College have sufficient space to accommodate new, high level academic and technical programs?

The question that should be asked when addressing ECC's space needs is: Is there adequate space of sufficient **quality** at each campus to accommodate existing programs? The answer for ECC is no. A significant amount of work has been done to preserve and update the College's facilities, such as the renovation of the Biology Labs at North Campus, restoration work at the Old Post Office Building at City Campus, creation of a Fitness Center at South Campus, installation of a new electric service at North Campus, and the complete renovation of 45 Oak to provide additional space at City Campus for academic programs and student services. However, there is much more that needs to be done.

As discussed, there is some surplus space on all of the campuses. This space could be successfully renovated to create some of the larger smart classrooms that are needed to meet the demands of larger course sections. It is more difficult, however, to renovate older buildings to create state-of-the-art science and engineering labs. Often the floor to ceiling height is insufficient and/or there is not enough space between-the-ceiling and the building structure to fit all of the ducts and conduit necessary to provide code-required ventilation and other services to laboratory spaces. It is generally more cost effective to renovate older buildings for non-technical administrative, office, and general classroom space and then build new space for the high-tech laboratories, computer labs, and support spaces that is flexible enough to accommodate new technologies and programmatic changes easily in the future. In addition, well utilized labs, such as the Biology Labs on the North Campus, cannot be taken off-line for renovation without providing lab space elsewhere on campus in which to offer Biology courses.

Figure 6.22 - Typical South Campus Classroom

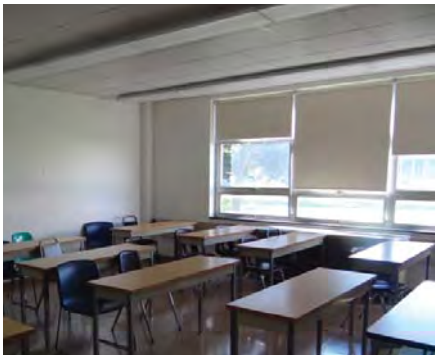


Figure 6.23 - North Campus Classroom

Figure 6.24 - Dental Technology Lab

Figure 6.25 - Automobile Technology

The remainder of this section describes the College's current and future space needs and recommendations for addressing them.

Classrooms

Research shows that active learning improves students' understanding and retention of information and can be very effective in helping them develop higher order cognitive skills such as problem solving and critical thinking. Active learning is student-centered and emphasizes interaction among students and collaboration between students and faculty. This often involves students breaking into smaller groups, requiring them to move furniture around the room. This kind of activity is not possible in rooms with only 16 square foot per student.

It is essential to provide a sufficient amount of space per seat in classrooms. On the North and South Campuses, right-sizing classrooms to provide 20 to 25 square feet per seat will result in more classrooms with 21 to 30 seats, which matches the majority of the current course enrollments. There will be a need, however, for larger classrooms to accommodate larger section sizes, especially if the College's plans to increase section sizes come to pass. Most classrooms on the City Campus already have 20 square feet or more per seat.

The match between course enrollments and seat count is important, and so is the technology that is incorporated into a classroom. In virtually every one of the academic programming interviews, the planning team was told the College needed additional smart classrooms. ECC has a plan in place to continue the transformation of regular classrooms into smart classrooms, but funding has not been available to keep up with the demand for updated spaces.

Class Laboratories

Many of the class laboratories on all three campuses are out-of-date and need to be renovated to adequately support the curriculum and collaborative modes of instruction. Some labs are too small to accommodate course enrollments, such as the Chemistry Labs at the City Campus, the Culinary Arts Labs at both City and North Campuses, and the Occupational Therapy Assistant Labs at North Campus. Other programs have simply grown to the point where additional class labs are required to meet demand, such as Industrial Technology and Nursing on the North Campus.

Updated, additional, and/or larger labs are required for the following programs: Biology, Biomanufacturing, Clinical Laboratory Technology, Culinary Arts, Dental Assisting, Dental Lab Technology, Engineering Science, Health Information Technology, HVAC & R, Industrial Technology, Medical Assisting, Nursing, Occupational Therapy Assistant, and Ophthalmic Dispensing.

Computer Classrooms and Open Computer Labs

Access to computers in classrooms and class labs enables communication-rich active learning strategies that range from teacher-led presentations, to students doing in-class work on computers, to interactive project work where students collaborate and use the Internet as a research tool during class time. Some programs rely heavily on computers for administering tests, such as Nursing and other Health Science programs. In some cases, such as Automotive Technology, more and more course material is only available to students online.

One of the comments the planning team heard most often during academic programming interviews was that more classrooms equipped with computers are needed to meet the growing requirements of computer-integrated learning. Faculty also indicated that additional open computer labs are required so students can access computers outside of class. Many students reportedly do not have access to a computer or the Internet at home. Some students enroll in hybrid courses where part of their class time is spent in the classroom and the other is spent online covering course material. According to faculty and staff, many of these students use College computers, either in the Library or in computer labs, for these classes.

Students today are tech-savvy. Many have used computers in their classes throughout high school and they expect to do the same in college. Sometime in the future, mobile computing may become so ubiquitous and the cost of technology may be reduced sufficiently that all students will be able to bring their own computer to the classroom. Until that time, however, ECC will need to increase the number of computers that are embedded in the College's instructional spaces. This requires more than simply placing a PC on a desktop. Computer work stations take up more space than a typical student desk, which leads to a need for larger rooms or to a reduction in the number of student stations in an existing space. Either way, it means an investment in technology, infrastructure, and space resources.

Adjunct Faculty Offices

The majority of the College's full-time faculty has office space. Generally, two faculty share one office, but there are instances where one faculty is located in a small office while a large space may be shared by several faculty. At City Campus, Culinary Arts faculty gave up their office space so the College could construct a small Café and a Baking Finishing Lab where students gain practical experience. Adjunct faculty, who make up a significant portion of the College's teaching staff, have either inadequate or no office space in which to work or meet with students. This is detrimental for students who often do not have access to their professor during out-of-class time.

Shared "bull-pen" offices for adjunct faculty equipped with workstations, computers, phones, and lockable storage for personal belongings and work-related material are needed at all three campuses. Small meeting rooms should also be available nearby so adjuncts can meet one-on-one

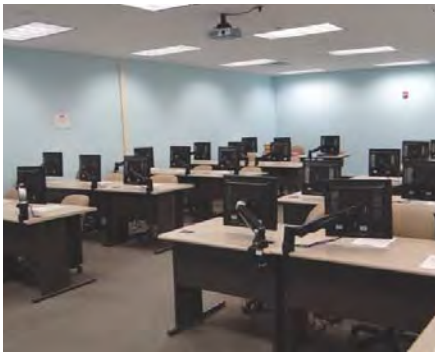


Figure 6.26 - City Campus Computer Classroom

Figure 6.27 - City Computer Classroom

Figure 6.28 - City Campus Lab

Figure 6.29 - South Campus Lab

Figure 6.30 - South Campus Lockers

Figure 6.31 - North Campus Lecture Hall

Figure 6.32 - City Campus Atrium

with students when confidential discussions are required. Locating adjunct faculty close to full-time faculty, preferably within the same program, facilitates collaboration and promotes a more collegial feeling among faculty.

Informal Gathering Space, Recreation and Activity Space, and Offices for Student Groups

Community colleges have traditionally been commuter colleges where students come for class, then leave to go to their job or return to their family. While that is still and will always remain true for some, many students - especially those of traditional college age - are looking to community colleges for the "whole college experience," which includes co-curricular activities and opportunities to spend time with peers outside of class. There are currently very few spaces on any of ECC's campuses where students can gather, relax, or enjoy social activities with their friends.

An average full-time student spends approximately 20 percent of his or her time engaging in "formal learning," which can be defined as time spent in the classroom and studying outside of class. Unintentional learning occurs during the other 80 percent of a student's time. Providing opportunities for co-curricular activities, service learning, and informal meetings with faculty and peers can enhance a student's educational experience and has been shown to improve success and retention.

Academic Program Space Needs

The planning team conducted 24 academic programming interviews, meeting with approximately 90 ECC administrators, faculty, and staff representing 64 programs and departments. The meetings were designed to solicit ideas and recommendations regarding current facility suitability and future programmatic goals. During the course of the interviews, a number of topics were presented to encourage the groups to uncover and discuss specific needs or intended changes in programs that could affect future space requirements. Topics included: programmatic initiatives; projected future space requirements; credit-bearing programs and workforce development; student/faculty services and amenities; department relationships and adjacencies; technology; teaching environments; and site/land issues. Where justifiable, the information gathered during these sessions informed the development of the Study Recommendations.

The reported space needs are summarized below. A full list of reported space needs, by program, that were discussed during the programming interviews may be found in Appendix D.

Programs Requesting New or Enlarged Class Laboratories

(* New programs)

- Advanced Manufacturing Technology*
- Biology, North Campus
- Biomanufacturing*
- Building Management and Maintenance
- Chemistry, City Campus
- Clinical Laboratory Technology
- Communication & Media Arts
- Construction Management Engineering
- Criminal Justice
- Culinary Arts
- Cybersecurity*
- Dental Hygiene
- Dental Lab Technology
- EMT, North and South Campuses
- Engineering Science
- Humanities (Mac Labs at North and City Campuses)
- Industrial Technology
- Math/Computer Science
- Mechanical Engineering Technology (Capstone Lab)
- Medical Assisting
- Nursing (A&P Micro Lab)
- Occupational Therapy Assistant
- Ophthalmic Assisting
- Physical Education Studies
- Respiratory Care
- Welding Technology*
- Police Academy

Programs Requesting Renovated Class Laboratory Space

- Clinical Laboratory Technology
- Electrical Engineering Technology
- Information Technology

Overall Space Needs

- The majority of programs indicated a need for the following:
- Office space for adjunct faculty
- Access to additional smart classrooms
- Larger smart classrooms
- Computers in more classrooms
- More open computer labs so students have access to computers out of class
- Additional storage space

Reported Space Issues

- Poor temperature control results in uncomfortable environmental conditions in instructional and office space on the North and South Campuses.
- Aging facilities, finishes, and furnishings require repairs/upgrades to make ECC look and feel like a college.
- More informal gathering space is needed throughout the three campuses.

Summary

Based on the results of the academic programming interviews, it is clear that there is a desire and often a need for additional space for existing and future programs at all of the campuses. However, some of the space needs that were expressed in the interviews, such as new pools at the North and South Campuses, may never be realized due to funding limitations and institutional priorities.

As previously mentioned, there is some existing space that could be repurposed to satisfy a portion of the justifiable needs listed above, but not all space is fungible. For example, it would not make financial sense to repurpose HPE space in the Flickinger Center to create a Learning Commons at the City Campus.

Space requirements for programs, such as Biomanufacturing and Mechatronics, will require high-tech space that is not easily created within existing buildings. Dedicating new space to specialized programs and renovating existing buildings for right-sized general classrooms and offices for adjunct faculty, expanding some programs in place, and creating formal and informal gathering spaces would be more economical.

There are other strategies the College could use to improve utilization of existing space and reduce the need for new space. For instance, programs currently located at several ECC campuses could be consolidated on a single campus, and similar programs could be clustered on "themed" campuses. This would provide opportunities for sharing space, equipment, and staff resources while giving each campus a distinct identity.

7 Study Recommendations

Does the College currently have adequate, state-of-the-art space to accommodate existing programs?

For the Buffalo Niagara Region to fully realize its vision as a leader in the advanced manufacturing, health sciences, and tourism sectors, it will need workers at all levels who are educated and trained to fill industry-specific jobs. Erie Community College does not have the type of space to support the academic programs that prepare students for these jobs. A focused study of regional workforce needs, ECC's existing programs, and the facilities needs of all three ECC campuses resulted in the following recommendations:

- **Reorganization of ECC's existing academic programs will allow the College to operate more efficiently.** Existing programs will be consolidated. The formation of new programs focused on meeting specific workforce needs will allow ECC to more effectively contribute to regional economic development. Facilities at all three campuses will need to be modified to support these initiatives.
- **A new facility designed to attract and educate students from Erie County and beyond for careers in STEM should be constructed at the North Campus.** The availability of County-owned land, ample and convenient parking, and synergies with academic programs already located there makes the North Campus the most cost effective and strategic location for this new flagship facility.
- **ECC should partner in the development of a Regional Workforce Advancement Center in the City of Buffalo.** ECC, in partnership with other area public and private sector organizations and educational institutions, should be prepared to facilitate a cooperative, collaborative Regional Workforce Advancement Center in the City of Buffalo. The Center will bring under one roof many of the College's two-year degree and certificate programs that lead directly to high demand jobs. Examples include Building Management and Maintenance and Energy Utility Technology programs. Recommended new programs to be offered by ECC through the Regional Workforce Advancement Center include Welding Technology and Supply Chain Management/Logistics, in addition to other regionally focused programs. Through collaboration and communication with the Buffalo Niagara Skills Partnership as a "skills broker," the Regional Workforce Advancement Center will help to expand education and job opportunities to displaced workers, the un- and under-employed, and underrepresented populations.

- **Additional programmatic recommendations build on the existing strengths of ECC's three campuses, as follows:**
  - North Campus: Center for Interdisciplinary Practice & Simulation (within the new STEM Building) and a First Responders Center of Excellence
  - City Campus: A Learning Commons to provide students with academic support and assistance; and expansion of the Culinary Arts program
  - South Campus: A Communications Center of Excellence focused on digital communications (audio, video and Web)
  - To support programs at all three ECC campuses, the College's circulator transport system should be made more efficient. Travel time must be decreased, and frequency must be increased.

What displacement to other academic/ technical programs would occur when plans are implemented? How could these programs be accommodated within the multi-campus ECC environment?

Consolidation of Programs

The driving strategies set forth in ECC's Strategic Plan: 2012 – 2014[1] call for, "maintaining three campuses with a shared mission and goals, consistent service delivery, reduced duplication of services, and strategically placed resources." The Plan also suggests implementing "programs and services where they can be most effective and where the facilities and infrastructure allow them to fulfill their purpose." This is prudent fiscal stewardship and provides a rationale for developing clusters of programs on the campus that can best support them in terms of spatial, equipment, and staffing needs.

ECC is a multi-campus institution with a regional focus. It meets the wide-ranging needs in the communities it serves through credit-bearing program offerings in career and transfer areas and courses and training programs through Workforce Development. Maintaining programs at three campuses ensures County residents have ready access to a quality college education without the burden of traveling too far from home.

Many of ECC's programs are offered at more than one campus – some at all three. This is appropriate for most Liberal Arts programs, as well as high-demand programs such as Business Administration, Criminal Justice, and Physical Education Studies. It does not make as much sense from a financial perspective, however, to have programs on multiple campuses that are costly, equipment intensive, and that require a large amount of space, such as Culinary Arts, Engineering, Nursing, and Dental programs.

Duplicating programs on multiple campuses has another impact on College finances. ECC's policy that each program must have a Chairperson at the campus where it is offered has resulted in the need for multiple program Chairs. There are three Humanities Chairs, three Criminal Justice Chairs, three Business Administration Chairs, etc. This is unusual for multi-campus community colleges where each program generally has only one Chair who is accountable for all aspects of the program.

Program Chairs are not required to coordinate with the other Chairs in their program group (though many do) and, as a result, the College often

1 Erie Community College, Strategic Plan: 2012-2014, adopted by the Board of Trustees February 29, 2012.

ends up with differing policies or standards on its campuses. This can be confusing for students and it undermines the concept that ECC is "One College."

The practice of having multiple program Chairs reduces the total number of teaching hours that can be dedicated to each program because of the release time each Chair receives. In a time when many faculty lines are open but unfilled due to funding constraints, the College needs to optimize its existing faculty resources. Establishing one Chair for each program would effectively result in more available teaching hours without adding additional faculty.

The consolidation of programs on campuses would have many benefits:

- It would give each program more of an identity and sense of place, making it easier for students to locate faculty and seek assistance.
- Co-locating faculty would increase opportunities for collaboration, which is known to benefit students and help strengthen programs.
- Consolidation of similar programs on one campus would reduce operating costs.

Recommendations for the consolidation of ECC's academic programs are presented in the Academic Program Moves Matrix found in Appendix E.

If ECC consolidated many of its specialized programs, students would still have the opportunity to take general education/liberal arts courses at any of the three campuses, but they would complete their focused work at one campus. For example, Crime Scene Technology, Emergency Management, and Dental programs would only be located on one campus each. This would result in improved efficiency, limited duplication of services, and collaborative opportunities, and reduced operational costs.

Each of the College's three campuses has its own character. Providing a focus, or theme, based on the programs and services clustered at each location would further define each campus, making ECC's diverse mission and program offerings more apparent to students and the community as a whole. Figure 7.1 identifies the recommended academic program distribution at the three campuses.

North Campus – Focus on STEM

The Buffalo Billion Investment Development Plan recognized the importance of innovation and the need to develop and invest in education - "Continue to develop…the human capital needed to accelerate innovation and a thriving ecosystem."[2] There is a strong and growing consensus in the U.S. that we must revitalize our commitment to strengthen the foundations of American innovation and competitiveness – basic research in the physical sciences and math and science education. The call is out for the U.S. to produce more graduates with STEM-related degrees who can take a leadership role

2 Western New York Regional Economic Development Council, Buffalo Billion Investment Development Plan, February 2013, page 25.

City Campus

Business Administration, A.S.
Business Administration A.A.S.
Criminal Justice, A.S.
Liberal Arts & Science - General Studies, A.S.
Liberal Arts & Science - Humanities, A.A.
Liberal Arts & Science - Science, A.S.
Liberal Arts & Science - Social Science, A.A.
Physical Education Studies, A.S.

Nursing, A.A.S.

Liberal Arts & Science Childhood Education 1-6, A.A.

Early Childhood, A.A.S.
- Early Childhood, Certificate*

Entrepreneurship, Certificate
Event Planning, Certificate*
Human Resources, Certificate*
Human Services, Certificate
Mental Health Assistant Alcohol Counseling, A.S.
Mental Health Assistant-Substance Abuse, A.S.
Office Management, A.A.S. (First year at City)
- Office Assistant, Certificate

Paralegal, A.A.S.
Radiation Therapy Technology, A.A.S.
Teaching Assistant, Certificate

Culinary Arts, Baking & Pastry Arts, & Hotel Restaurant Management

Culinary Arts, A.O.S.
- Baking & Pastry Arts, Certificate

Hotel Restaurant Management, A.A.S.

North Campus

Business Administration, A.S.
Business Administration, A.A.S.
Criminal Justice, A.S.
Liberal Arts & Science - General Studies, A.S.
Liberal Arts & Science - Humanities, A.A.
Liberal Arts & Science - Science, A.S.
Liberal Arts & Science - Social Science, A.A.
Physical Education Studies, A.S.

Nursing, A.A.S.

Liberal Arts & Science Math, A.S.

Advanced Manufacturing Technology, A.A.S.*
Advanced Police Science, Certificate
Civil Engineering Technology, A.A.S.
Computer Applications for the Office, Certificate
Computer Science, A.S.
Construction Management Engineering Technology, A.A.S.
Criminal Justice/Law Enforcement A.A.S.
Crime Scene Technology, Certificate
Cybersecurity, A.S.*
- Computer Security & Investigations
  Digital Forensics, Certificate
- Information Systems Security, Certificate

Dental Hygiene, A.A.S.
- Dental Assisting, Certificate

Dental Laboratory Technology, A.A.S.
Electrical Engineering Technology, A.A.S.
- Electrical Maintenance Certificate*
- Electronics Certificate*

Emergency Management, A.A.S.
Emergency Medical Services Provider, Certificate

South Campus

Business Administration, A.S.
Business Administration A.A.S.
Criminal Justice, A.S.
Liberal Arts & Science - General Studies, A.S.
Liberal Arts & Science - Humanities, A.A.
Liberal Arts & Science - Science, A.S.
Liberal Arts & Science - Social Science, A.A.
Physical Education Studies, A.S.

Architectural Technology Construction Technology, A.A.S.
Autobody Repair, A.A.S.
Automotive Technology, A.A.S.
Casino Gaming Machine Repair Technician, Certificate
Computer Aided Drafting and Design Technology, A.A.S.
Computer Repair Technology, A.A.S.
Human Services, Certificate
Health and Wellness, A.S.*
Telecommunications Technology, A.A.S.

Communications Center of Excellence

Communication and Media Arts, A.S.
Visual Communication Technology, A.A.S.
Web and Mobile Applications, Certificate*
Web Page Design, Certificate

Sustainability Training Center

Pressure House and Alumni House

Consolidation of Culinary Arts, Baking and Pastry Arts, and Hotel Restaurant Management at City after the Workforce Advancement Center is completed

– or –

Consolidation of all three at North Campus

Workforce Advancement Center

Building Management & Maintenance, A.O.S.
- Building Trades/Residential Light Commercial, Certificate
- Heating, Ventilating, Air Conditioning and Refrigeration, Certificate
- Green Building Technology, Certificate

Industrial Technology, A.O.S.
- Mechanics/Automation Certificate*
- Supply Chain Management/Logistics Certificate*
- Manufacturing Production Certificate*
- Energy Utility Technology, Certificate
- CNC Precision Machining, Certificate

Project Manager Professional, Certificate*

Welding Technology, A.O.S.*
- Advanced Welding Certificate*
- Basic Pipe Welding Certificate*
- Welding Fabrication Certificate*

Jobs in Advanced Manufacturing

Jobs in Tourism

* New Programs

Emergency Medical Technology/Paramedic, A.A.S.
- Emergency Medical Technology/Paramedic, Certificate

Environmental Science, A.S.

Environmental Technology Geoscience, A.A.S.

Fire Protection Technology, A.A.S.

Food Service Administration - Dietetic Technology, A.A.S.

Health Information Technology, A.A.S.

Homeland Security, Certificate

Information Technology, A.A.S.

Mechanical Engineering Technology, A.A.S.

Mechatronics, A.A.S.*
- Industrial Electronics (Mechatronics) Certificate*

Occupational Therapy Assistant, A.A.S.

Office Management, A.A.S.

Ophthalmic Dispensing, A.A.S.

Police Basic Training, Certificate

Police Science, A.A.S.

S.T.E.M. Building

Bioinformatics, A.S.*

Biomanufacturing, A.S.*
- Biomanufacturing, Certificate
- Food Manufacturing, Certificate*

Clinical Laboratory Technician, A.A.S.

Engineering Science, A.S.

Medical Office Assistant, A.A.S.
- Medical Office Practice, Certificate

Respiratory Care, A.A.S.
- Polysomnography/Sleep Disorders, Certificate*

Center for Interdisciplinary Practice and Simulation (CIPS)

Nursing Labs

Science and Health Sciences Labs

Careers in Advanced Manufacturing

Careers in Health/Life Sciences

Careers in Communications
Health & Wellness
Sustainability
Automotive Technology

Focus on Transfer Degrees

Figure 7.1 Academic Program Distribution

in the development of new materials, processes, and inventions. ECC's STEM-based programs play a key role in educating these graduates.

As discussed previously, STEM-related industries in the Advanced Manufacturing and Health and Life Sciences sectors will need an influx of workers to support anticipated regional growth. Thirty-five percent of STEM jobs will require only a certificate or Associate's degree, which will open doors to opportunities in a wide variety of high-demand occupations. Individuals with a STEM-based education can work in professional services, health care, precision manufacturing, advanced materials manufacturing, finance and insurance, and more. Therefore, the primary recommendation of this study – **construction of a new STEM Building** - will directly support targeted sectors by preparing the educated and skilled workforce necessary to achieve the economic development goals of the region.

Construction of a new state-of-the-art STEM Building on the North Campus, designed to house classrooms, laboratories, computer labs, faculty offices, and the new **Center for Interdisciplinary Practice and Simulation**, will make it possible to consolidate many of the College's existing and proposed STEM-related programs. This new flagship facility will provide opportunities for interdisciplinary collaboration, shared resources, and will showcase the programs needed to attract and educate the region's future innovators.

Based on academic programming interviews and campus site visits, a preliminary space program was developed for the proposed STEM Building. The intent was to locate all of the North Campus's science labs, as well as some Health & Life Sciences labs, in the new facility as most of the existing labs are outdated and in need of renovation. New labs for Anatomy & Physiology and Biomanufacturing have been included, along with an additional Biology Lab. The detailed space program for the building, which is provided in Appendix F, includes class labs for:

- Anatomy and Physiology
- Biology
- Biomanufacturing
- Chemistry
- Engineering Science
- Medical Lab Technology
- Medical Assisting
- Nursing
- Physics
- Respiratory Care, including a Polysomnography/Sleep Disorders Lab

In addition to prep labs and other support space for the class labs, the space program includes:

- Faculty and adjunct faculty offices for Biology, Chemistry, Engineering Science, Physics, Mathematics, Nursing, Medical Lab Technology, Medical Assisting, Biomanufacturing, and Respiratory Care. Offices make up a large part of any college's space inventory. Staffing projections were provided by the College. The space program includes 100 square feet for each full-time faculty member and 30 square feet for each adjunct faculty. Two full-time faculty would share a 200 square

foot office and adjunct faculty would be located in larger "bull-pen" offices where they would have access to shared desks, computers, phones, printers, storage space, and small meeting rooms where they could counsel students confidentially.
- Student study rooms
- Tutoring Centers (one for Science and one for the Health Sciences)
- Dedicated computer labs (one for Science and one for the Health Sciences)
- General computer labs
- Eight smart general classrooms of various sizes to help meet the demands of all programs
- Open computer lab
- Conference rooms
- Lounge
- Fitness Center

The building will also house the Center for Interdisciplinary Practice and Simulation (CIPS) with three simulation labs, a Debriefing Room, Observation Room, Control Room, Mannequin Storage Room, and CIPS Office. It will be used by multiple programs including Nursing, Respiratory Care, Emergency Medical Technology/Paramedic, Emergency Medical Services Provider, Medical Lab Technology, Medical Assisting, and potentially Basic Police Training. The proposed location of the STEM Building is shown in Figures 7.2 through 7.3 as a transparent, generic block that represents approximately 111,000 GSF.

Figure 7.2 - STEM Building Bird's Eye View from Southwest

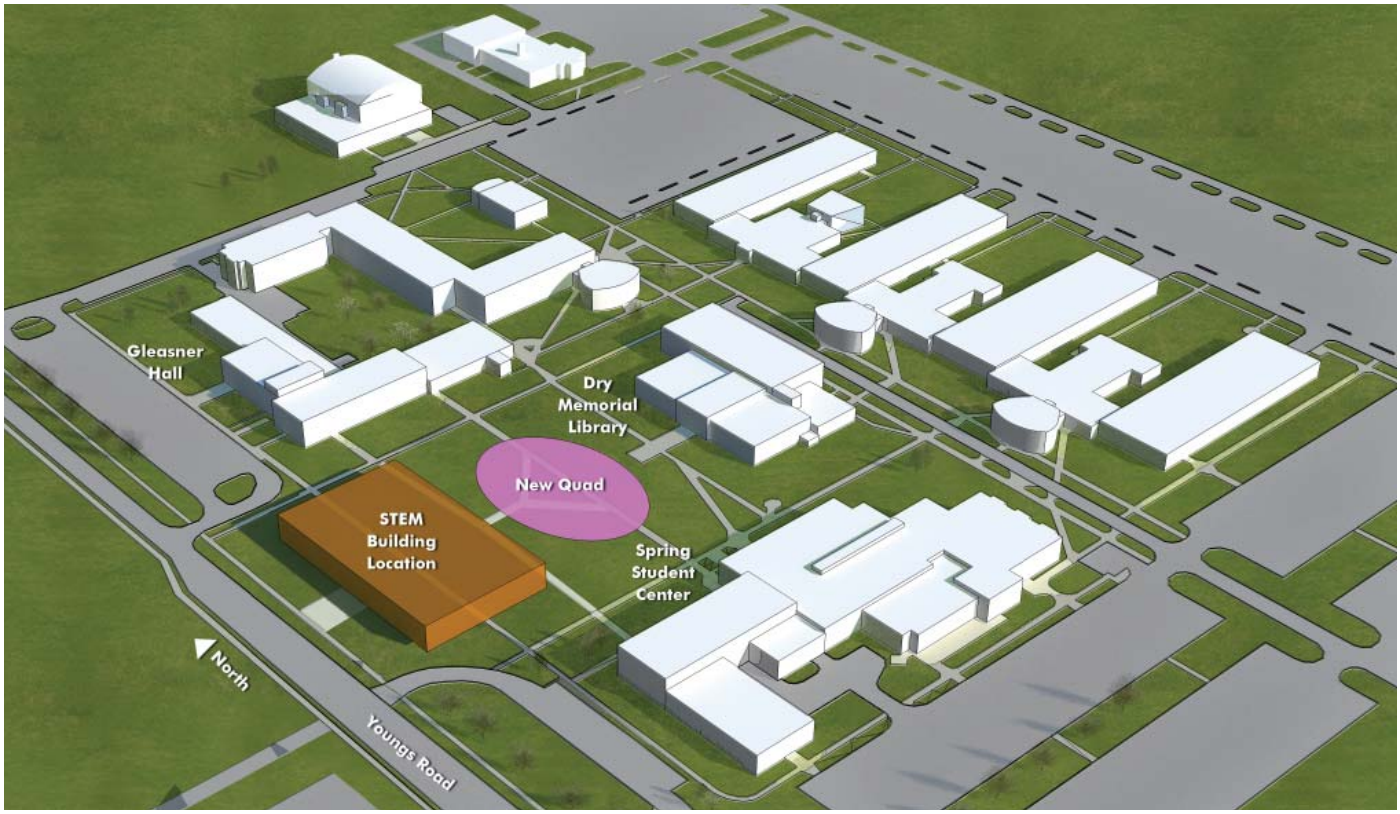
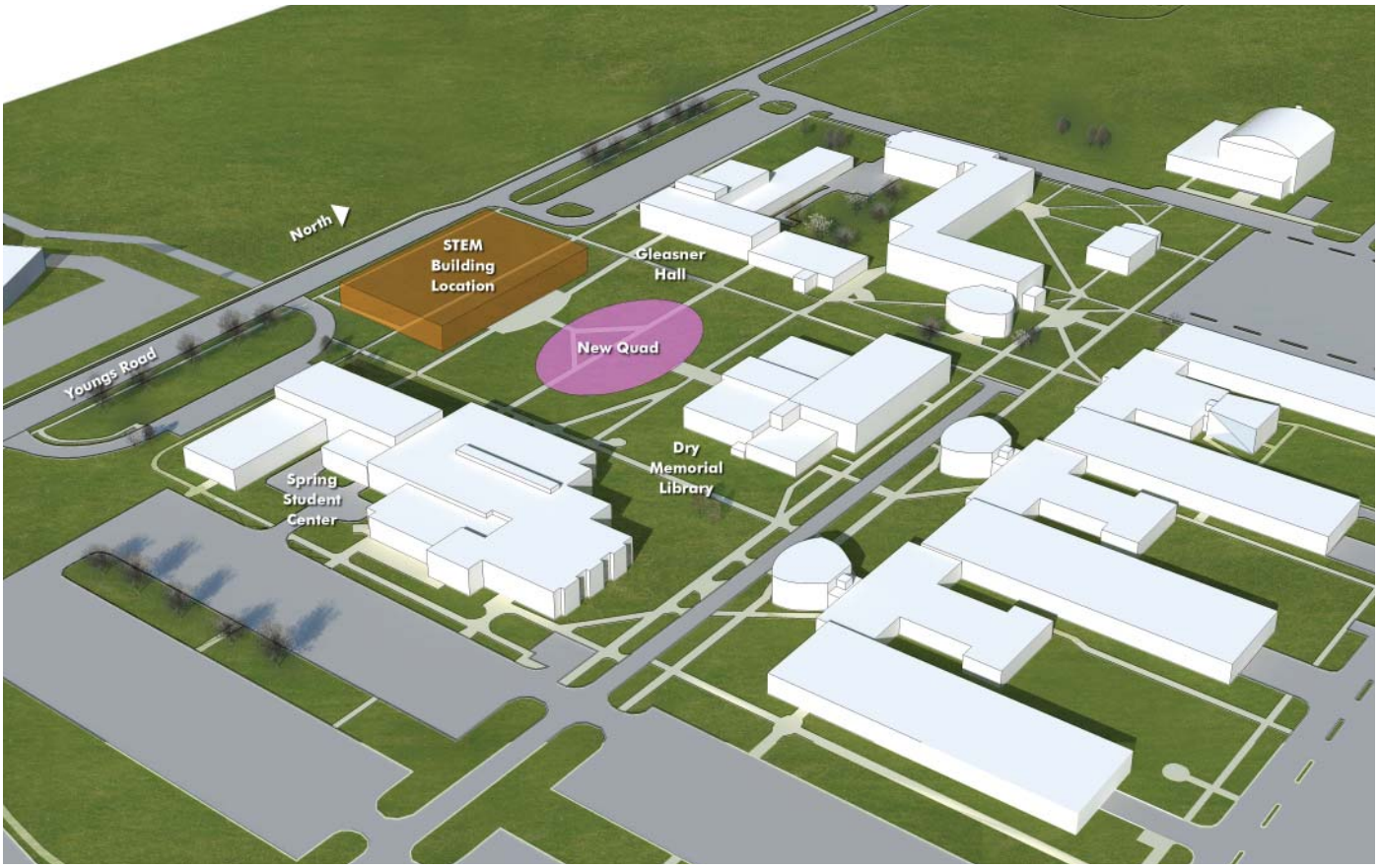


Figure 7.3 - STEM Building Bird's Eye View from Southeast



To fully satisfy the College's existing and future STEM-related program needs, the new building would have to be 67,320 net assignable square feet (NASF). NASF refers to the sum of all floor areas in a building that are assigned to, or available for, use by building occupants. Not all space in a building is eligible for assignment. Service areas, restrooms, corridors, and mechanical rooms, for example, are not included in the calculation of NASF.

The gross square feet (GSF) of a building captures all of these spaces and also includes the thickness of interior and exterior walls. In order to determine the number of GSF required to accommodate all of the NASF of academic and support spaces, the total number of NASF must be multiplied by a grossing factor. Grossing factors vary depending on building type. A grossing factor of 1.65 is generally the accepted norm for academic buildings. Using a grossing factory of 1.65 for the STEM Building, the overall building area would be approximately **111,000 GSF.**

The probable construction cost for a community college science-technology building is $380 per square foot. However, associated costs for site work, contingencies, escalation, fees, furnishings and equipment must also be included to arrive at a total project cost, as shown in Figure 7.5. As such, the total project cost for the 111,000 GSF STEM Building would be **$58,900,000.**

Building Legend

1. Nunan Center (N-Building)
2. Gym (L-Building)
3. Bretschger Hall (B-Hall)
4. Mary Lou Rath Childcare Center (R-Building)
5. Kittinger Hall (K-Building)
6. Gleasner Hall (G-Building)
7. Dry Memorial Library (D-Building)
8. Spring Student Center (S-Building)
9. Proposed STEM Building Location

SUNY ECC

Program Needs Analysis and Space Utilization Assessment

Tech Road

Main Street

Wehrle Drive

Youngs Road

Develop Quad as a new "Heart" of the Campus

Extend access drive and parking to serve STEM building

Figure 7.4 - North Campus STEM Building Location Plan

Figure 7.5 - STEM Building - Full Program

67,320	NASF
1.65	Grossing Factor
111,000	GSF
$380	per Square Foot
$42,180,000	**Raw Building Construction Cost**
$2,109,000	5% Site Work
$6,327,000	15% Construction Contingency
$2,952,600	7% Design Fee
$2,530,800	6% Escalation to Mid-Point of Construction(2015)
$56,099,400	
$2,800,600	FF&E
$58,900,000	**Total Project Cost**

ECC, Erie County, and SUNY have agreed on a **$30,000,000 capital budget** to construct a new academic building to support program growth and the alignment of academic programs with regional workforce needs. Since the recommended space program for the STEM Building exceeds the established project budget of $30,000,000, the size of the new facility will have to be reduced to 34,360 NASF (56,700 GSF) to fit within available funding, as shown in Figure 7.6.

Figure 7.6 - STEM Building - Reduced Program

34,360	NASF
1.65	Grossing Factor
56,700	GSF
$380	per Square Foot
$21,500,000	**Raw Building Construction Cost**
$1,075,000	5% Site Work
$3,225,000	15% Construction Contingency
$1,505,000	7% Design Fee
$1,290,000	6% Escalation to Mid-Point of Construction(2015)
$28,595,000	
$1,405,000	FF&E
$30,000,000	**Total Project Cost**

A building of this size will accommodate the basic spaces ECC needs to advance its new programs and support some of its existing programs, but it will not address all of the existing needs. Provisions should be made in the design of the STEM Building for a future addition to fully realize the benefits of this concept.

Appendix F includes the reduced space program for the 34,360 NASF/56,700 GSF STEM Building. The following functions were excluded from the revised space program:

- Three Chemistry Labs
- Biology Lab for Medical Technology
- Physics Department
- Mathematics Faculty Offices
- Nursing Department
- Support Space for Health Services, e.g. Computer Lab and Health Sciences Study Room
- Medical Lab Technology Department
- Medical Assisting Support Space
- Respiratory Care Department and Sleep Disorders Lab
- One 960 sf Classroom (seats 48)
- One 800 sf Computer Lab (26 computer stations)
- Testing Room
- Fitness Center and Multi-Purpose Room

Should additional academic/technical space be needed, at which campus is it best located to complement existing College programs and support functions and to utilize and optimize existing space?

Why the North Campus?

The North Campus is the most appropriate location for the proposed STEM Building for a multitude of reasons:

- Located approximately 13 miles from the City Campus, the North Campus already houses a large number of ECC's STEM-based programs, such as Civil Engineering Technology, Electrical Engineering Technology, Engineering Science, Environmental Science, and the College's high-level Math and Science courses. Other programs offered at North Campus include Dental Hygiene, Dietetic Technology, Nursing, Ophthalmic Dispensing, Respiratory Therapy, Criminal Justice, and Hotel Restaurant Management. New degree programs that will be offered at the North Campus include Biomanufacturing, Bioinformatics, and Mechatronics.

- The majority of ECC's existing STEM-related facilities are outdated. Science and Nursing labs on the North Campus are sorely in need of renovation and expansion. New pedagogies demand new types of spaces that foster active learning and collaboration. The STEM Building will provide a new, 21st century learning environment that will be used by a wide variety of ECC programs and students.

- The College owns the land on which the North Campus stands and there is ample space for a new building and additional parking. On another ECC Campus, like the City Campus, new construction would require the acquisition of one or more city blocks for the building and even more acreage for at least 350 cars. Information on recent downtown Buffalo land sales indicates that property costs could exceed $2 million. Adding such non-educational costs to the project would divert resources from the academic spaces proposed for the building.

- The STEM Building will attract students who might not have considered studying at ECC, thus reducing chargebacks required to be paid to other counties when Erie County students attend community colleges elsewhere in New York.

- North Campus has the largest enrollment of the three campuses; approximately 50 percent of students enrolled at ECC considered it their home campus in fall 2012. A new STEM building at ECC North could have an impact on the education of the largest number of students.

- Locating the STEM Building at the North Campus will provide an opportunity to begin a transformation of the campus. Currently there is no "heart" to the campus; it feels like buildings loosely connected by walkways and roads surrounded by a parking lot, not a college campus.

- Locating the new building on the southwestern side of the campus will create a welcoming entrance from Youngs Road. The new building will provide critically important academic space and it will also provide definition to the existing expansive green space, forming an academic quadrangle. Once improved with appropriate hard and soft landscape features, the quad will serve as the focal point of the North Campus. The STEM Building, Spring Student Center, Dry Memorial Library, and Gleasner Hall will all face this new "heart" of the campus, which could be used for gatherings, recreation, graduations, and other College events.

- If the lot across the road from the campus is developed by a third party for student housing, the STEM Building could act as the portal for those students to enter the campus.

- Construction of the STEM Building would result in approximately 38,700 NASF of vacant space when existing programs move to the new building; most of it on the North Campus. This vacant space would open up a wealth of possibilities for the College:
  - Classrooms could be "right-sized," as discussed previously in this report, to better serve a mix of course section sizes.
  - Growing programs could expand in place or be relocated to more appropriate space. In most cases, this would occur in conjunction with renovation projects that would address academic priorities while also remedying facilities deficiencies such as inefficient building envelopes, aging building systems, and poor environmental conditions, e.g., buildings that are too hot, cold, stuffy, or all three. Improvements in these areas could also lower the College's operating costs.
  - Offices could be provided for adjunct faculty.
  - More informal gathering spaces could be created for students.
  - Some existing space on the North Campus could potentially be "retired/demolished," thus reducing operating costs by taking an inefficient and aging building off-line.

Therefore, construction of a new STEM Building on the North Campus would provide an environment in which many of the College's STEM-related programs could be consolidated and thrive; it would improve the image of

the campus to prospective students; and it would support the strategic goals of the College. Providing career degrees in STEM-related occupations and transfer degrees for students interested in pursuing a STEM career at a four-year institution are two of the best ways ECC can support the development of the region's workforce.

Also at North Campus

The Police Academy is also located at North, as are related programs, such as Police Science, Police Basic Training, Advanced Police Science, Criminal Justice/Law Enforcement, Homeland Security, and Crime Scene Technology. Creation of a **First Responders' Center of Excellence** on the campus would consolidate these and other related ECC programs, fostering collaboration and facilitating the sharing of space, equipment, and faculty resources. While not tied directly to the industry sectors targeted for growth, this Center would provide training for individuals who serve and protect all County citizens.

City Campus – Focus on Workforce Advancement

Students at the City Campus, located in the center of downtown Buffalo, reflect the multi-cultural identity of the city. Hosting programs such as Culinary Arts, Baking and Pastry Arts, Early Childhood, Entrepreneurship, Paralegal, Teacher Preparation, Radiation Therapy Technology, Nursing, and Building Management and Maintenance, the Campus already addresses many of the workforce development needs of the region and the city.

Creation of a new **Regional Workforce Advancement Center** in the City of Buffalo would relocate and combine many of the College's degree and certificate programs that lead directly to jobs, particularly those that are projected to be in high demand. Co-locating existing programs such as Building Management & Maintenance, Energy Utility Technology, and Industrial Technology, with recommended new programs including Welding Technology and Supply Chain Management/Logistics would create an ideal setting for training designed to improve the match between Western New York's workforce and the needs of regional employers. Working in partnership with other educational institutions and local business and industry, the Center could act as a "skills broker" while helping to expand education and job opportunities to displaced workers, the un- and under-employed, and under-represented populations.

Discussions between WNY REDC, ECC, and industry leaders have already begun regarding the creation of such a center. The next steps will involve solidifying partnerships to advance the idea; determining which programs will be offered; obtaining funding; and locating a building or site on which to construct the Center. The promise of the Buffalo Billion Development Investment Plan could be the spark that ignites region-wide interest in the Center. A partnership between education, government, business, and industry is needed to create the integrated workforce development center the region needs to facilitate the training of a skilled workforce that supports the economic goals of the region.

Why the City Campus?

- The proposed Regional Workforce Advancement Center belongs in the City of Buffalo. The programs that will be housed there, along with classrooms, meeting rooms, and flexible space to accommodate contract training courses for the College's partners in business and industry, will serve the training needs of the region well. The Center will function as an education and training pipeline, providing opportunities for Erie County residents from high school drop-outs to workers looking to improve their skills or retrain for a new career.

- The College does not own land near the City Campus on which to construct a new building and there is no available space within existing City Campus buildings to accommodate the combined functions proposed for the Regional Workforce Advancement Center. There are a significant number of vacant buildings and sites within the City limits, however, that could potentially accommodate the Center. Requirements for the new facility include:

  - Ease of access, especially for individuals who must use public transportation
  - Adequate on-site parking
  - A building of at least 50,000 gross square feet that will accommodate trade-related training facilities
  - Available land for future expansion
  - Proximity to restaurants, unless the Center has its own food service

With a focus on providing students with career pathways and promoting entrepreneurship and partnerships with business and industry, the City Campus – along with the STEM-focused North Campus - would strengthen the College's efforts to support regional workforce development needs.

Also at City Campus

Given its location and the special needs of the growing immigrant population in the city, the College should strengthen student support services through the creation of a Learning Commons that offers students tutoring, greater access to and assistance with computers, spaces for individual and collaborative group work, and a robust career counseling program. Additional English as a Second Language (ESL) courses that focus on providing language skills that prepare students for college level work would also help strengthen the City Campus's role as a supportive portal for individuals looking to enter and excel in the workforce.

South Campus – Focus on General Studies

The South Campus, located in Orchard Park and Hamburg, serves the southern portion of the County. Site of the new **Sustainability Training Center**, the Campus hosts a wide variety of programs such as Architectural Technology, Automotive Technology, Computer Aided Drafting & Design Technology, Computer Information Systems, Computer Repair

Technology, Communications and Media Arts, Graphic Arts & Printing, and Telecommunications Technology. It is also the proposed location for the College's new Health and Wellness A.S. degree.

The focus for the South Campus is on liberal arts and general studies, which prepares students for transfer to a four-year institution. The Associate in Liberal Arts – General Studies degree offers students the option of a flexible exploratory course of study with a self-structured curriculum that allows them to explore a variety of academic options.

The creation of the First Responders' Center of Excellence will result in vacant space on the South Campus when programs move to the Center on the North Campus. This will facilitate the "right-sizing" of classrooms and the redistribution of space to programs that are in need of offices, labs and support space on the South Campus, such as Communications & Media Arts and Physical Education Studies. Some of this space could be used to create the proposed **Communications Center of Excellence** where students would learn to use technology to create and enhance communication through the integration of video, audio, and the Web. Such a Center could support multi-media coursework and prepare students for jobs in digital imaging and design, video and audio production, or website production.

Additional Programmatic Recommendations

- The consolidation of other programs would open up additional space reallocation possibilities, the documentation of which is not in the scope of this project. The College would benefit significantly from a master planning effort that includes a full architectural and engineering facilities condition assessment. This would identify all of the capital projects that are needed at ECC's three campuses. Such a study would act as a road map for the College and the County to help prioritize capital projects so that all future investments advance the mission of the College and support the regional workforce and academic needs of the region.

- Culinary Arts and Hotel Restaurant Management should eventually be consolidated, but the location is uncertain. As previously mentioned, if the Regional Workforce Advancement Center becomes a reality at City, the Building Management & Maintenance programs could vacate the lower level of the Post Office Building, leaving a significant amount of space that could be repurposed for Culinary Arts, Hotel Restaurant Management, as well as a portion of the new Learning Commons. If the College decides to consolidate the programs prior to the construction of the Regional Workforce Advancement Center, then consolidation could take place at the North Campus. However, this would require construction of an addition to the Spring Student Center.

ECC - One College, Many Choices

ECC will be able to maintain its institutional identity and organizational structure even as the three campuses further clarify their individual identities. The consolidation and reorganization of programs to create themed campuses and program clusters will help strengthen ECC's One College image while improving its service to students and the community. The new STEM Building and Regional Workforce Advancement Center, along with the other initiatives recommended in this report, will help the College educate and train the workers who will be responsible for the economic rebirth of the region.

ECC is clearly more than the sum of its parts!

Appendices

Appendix A: STEM Careers
Appendix B: Interview Summaries
Appendix C: Space Utilization Tables and Analysis
Appendix D: Reported Space Needs
Appendix E: Recommended Program Moves
Appendix F: STEM Building Space Program

Appendix A:

STEM Careers

Appendix A - STEM Careers

STEM Occupations	
Actuaries	Forest and Conservation Technicians
Aerospace Engineering and Operations Technicians	Foresters
Aerospace Engineers	Geographers
Agricultural and Food Science Technicians	Geological and Petroleum Technicians
Agricultural Engineers	Geoscientists, Except Hydrologists and Geographers
Animal Scientists	Health and Safety Engineers, Except Mining Safety Engineers and Inspectors
Anthropologists and Archeologists	Historians
Architectural and Civil Drafters	Hydrologists
Astronomers	Industrial Engineering Technicians
Atmospheric and Space Scientists	Industrial Engineers
Biochemists and Biophysicists	Industrial-Organizational Psychologists
Biological Scientists, All Other	Information Security Analysts
Biological Technicians	Life Scientists, All Other
Biomedical Engineers	Life, Physical, and Social Science Technicians, All Other
Chemical Engineers	Marine Engineers and Naval Architects
Chemical Technicians	Materials Engineers
Chemists	Materials Scientists
Civil Engineering Technicians	Mathematical Science Occupations, All Other
Civil Engineers	Mathematical Technicians
Clinical, Counseling, and School Psychologists	Mathematicians
Computer and Information Research Scientists	Mechanical Drafters
Computer Hardware Engineers	Mechanical Engineering Technicians
Computer Network Architects	Mechanical Engineers
Computer Network Support Specialists	Medical Scientists, Except Epidemiologists
Computer Occupations, All Other	Microbiologists
Computer Programmers	Mining and Geological Engineers, Including Mining Safety Engineers
Computer Systems Analysts	Network and Computer Systems Administrators
Computer User Support Specialists	Nuclear Engineers
Conservation Scientists	Nuclear Technicians
Database Administrators	Operations Research Analysts
Drafters, All Other	Petroleum Engineers
Economists	Physical Scientists, All Other
Electrical and Electronics Drafters	Physicists
Electrical and Electronics Engineering Technicians	Political Scientists
Electrical Engineers	Psychologists, All Other
Electro-Mechanical Technicians	Social Science Research Assistants
Electronics Engineers, Except Computer	Social Scientists and Related Workers, All Other
Engineering Technicians, Except Drafters, All Other	Sociologists
Engineers, All Other	Software Developers, Applications
Environmental Engineering Technicians	Software Developers, Systems Software
Environmental Engineers	Soil and Plant Scientists
Environmental Science and Protection Technicians, Including Health	Statisticians
Environmental Scientists and Specialists, Including Health	Survey Researchers
Epidemiologists	Surveying and Mapping Technicians
Food Scientists and Technologists	Urban and Regional Planners
Forensic Science Technicians	Web Developers
	Zoologists and Wildlife Biologists

Appendix B:

Interview Summaries

Academic Programming Interviews

JMZ conducted 24 academic programming interviews, meeting with approximately 90 ECC administrators, faculty, and staff from the following disciplines:

- Academic Administration
- Architectural Technology-Construction Technology
- Autobody Trades: Autobody Repair
- Automotive Technology
- Biology
- Biomanufacturing
- Building Management & Maintenance
- Business Administration (AS & AAS)
- Business Office Management (AAS)
- Chemistry
- Civil Engineering Technology
- Clinical Laboratory Technology
- Communication & Media Arts
- Computer Aided Drafting & Design Technology
- Computer Repair Technology
- Computer Science
- Construction Management Engineering Technology
- Criminal Justice (AS & AAS)
- Culinary Arts
- Dental Assisting
- Dental Hygiene
- Dental Laboratory Technology
- Dietetic Technology
- Early Childhood
- ECC Foundation
- Electrical Engineering Technology
- Emergency Management
- Emergency Medical Technology
- English
- Environmental Science (AS)
- Environmental Technology GeoScience (AAS)
- Fire Protection Technology
- General Studies
- Health and Physical Education Studies
- Health Information Technology
- Hotel Restaurant Management
- Humanities
- Industrial Technology
- Information Technology
- Library
- Mathematics/Computer Science
- Mechanical Engineering Technology
- Medical Assisting
- Mental Health
- Mental Health - Alcohol & Substance Abuse Counseling
- Nursing
- Occupational Therapy Assistant
- Ophthalmic Dispensing
- Paralegal
- Physical Education
- Physics
- Physics/Engineering Science
- Police Science
- Police Science (AAS)
- Radiological Technology/ Radiotherapy Tech
- Respiratory Care
- Security
- SES Staff
- Social Science
- Telecommunication Technology-Verizon
- Telecommunications Technology
- Visual Communication Tech-Graphic Arts & Printing
- Workforce Development

Erie Community College

Academic Programming Interview Summaries

October 16-18, 2012

General Studies

October 16; 12:00- 1:00 PM

Rich Washousky, EVP Academic Affairs
Ed Holmes, AVP Academic Affairs
Marcia Gellin, AAD for Liberal Arts, City Campus
Richard Wolcott, AAD for Liberal Arts, South Campus
Mary Beard, AAD for Liberal Arts, North Campus
Kim Iannucci, Institutional Research Assessment Accreditation and Planning
Loretta Cylar, General Studies Chair, North Campus
Laurie Rovnak, General Studies
Jean Stark, JMZ
Patricia Pietropaolo, JMZ

General Comments

- 4,000 General Studies students at three campus (2,000 at North and 1,000 at both City and South); "best transfer degree"
- There are two full-time General Studies faculty and they share an office
- Pay $135,000 additional to faculty for advising students
- Five to ten sessions on Academic Success on each campus
- All three campuses have a Center for Teaching and Learning Assessment. Adjunct faculty who are not assigned offices can use these spaces as touch-down areas where they can access to a desk and computer.
- The College would like to transform the libraries at the North and South Campus into Learning Commons to help integrate the Library with student support services.
- Culinary students serve the hot meals that are available on the North and City Campuses. Therefore, the teaching kitchens do double duty. Breakfast is not served at the North Campus.
- Public transportation to the North and City Campuses is good; not so good to South Campus.
- The department recommends that students take a three-credit "Success Course." The goal is to help students get off to a good start by teaching them: time management, goal setting, the difference between learning styles, study skills, library research techniques, note taking, and critical thinking. Faculty use group research projects to help students develop interpersonal skills. At City Campus, the focus is on understanding cultural diversity.
- Building electrical capacity at the North and South Campuses (especially at North) is maxed out. New transformers are generally required when buildings are renovated; each costs roughly $900,000.
- Faculty would like to improve safety and security in all classrooms through the installation of phones that work well.

South Campus

- Office in Building #4, Suite 4106; perfect layout and good location.
- There is not a Student Union on the South Campus so the only place students can relax between classes is the Library.

North Campus

- K-Building 120; Director of General Studies for all three campuses.
- Additional office in B-Building (B208D)-suite of offices that also includes Office Management; support staff in same office.
- Use K-100 (~130 seat lecture hall) twice per year for advising.
- Course cap is 32.
- Three adjunct faculty share a desk in K-118.
- General Studies has a dedicated classroom but it lacks smart technology. There is one portable "smart cart" for the entire North Campus.
- Students tend to stay in the building that houses most of their classes. The Student Center is at the far end of the Campus. K and B Buildings have student lounges and satellite food kiosks.

City Campus

- Three offices on the fourth floor: 441 (three people), 443 (main office), and 445 (Director); Six part-time faculty.
- Students wait in the hall for advising.
- General Studies does not have dedicated classrooms at City. All courses are taught in the Flickinger Center; smart technology is needed in more classrooms (the department has some portable presentation equipment, but they would prefer that technology be integrated into the classrooms). Maximum enrollment of 32 due to size of classrooms.
- Students congregate in the Atrium, which results in noise problems throughout the building.
- Vending is available on the fourth floor.

Communications & Media Arts
English
Mathematics/Computer Science (MT/CS)

October 16; 1:00- 2:00 PM

Rich Washousky, EVP Academic Affairs
Ed Holmes, AVP Academic Affairs
Kim Iannucci, Institutional Research Assessment Accreditation and Planning
John Harrigan, Communication Arts Chair, South Campus
Vera Piper, English, South Campus
David Denio, English, South Campus
Sue Theeman, MT/CS Chair, North Campus
Diane Zych, MT/CS, North Campus
Brad Streller, MT/CS Chair, North Campus
Maryann Justinger, MT/CS, South Campus
Jean Stark, JMZ
Patricia Pietropaolo, JMZ

General Comments

- All classrooms should be equipped with smart technology and tables and chairs, not tablet arm chairs. The classrooms are too crowded.
- Faculty would like teleconferencing abilities from almost all classrooms and meeting spaces.
- A dedicated room, equipped with AC, is required for the Web-Net servers.
- Co-locating MT/CS and other liberal arts science programs such as Physics, Engineering Science, and Biology fosters faculty collaboration and may increase student interest and retention.
- Classrooms on the South Campus are too small for the number of tablet-arm chairs that are provided. Temperature control is poor, as is lighting.

North Campus

- Classrooms on the North Campus have too many desks crowded into the rooms. The maximum class size is 32 but it is difficult to fit that many students in many of the rooms, even in tablet arm chairs. Classes generally range in size from 18 to 32; section must have 8 students or it is cancelled.
- Storage space is inadequate.
- Few rooms have air conditioning, making them extremely uncomfortable during certain times of year. Building temperature control is poor throughout the campus.
- Meeting space is limited.
- There should be an auditorium that is large enough to be used for graduation.
- Use of the Theater is limited because the Theater-in-Residence group has priority use of the space.
- The fitness center needs to be improved and expanded.
- Space is needed for student clubs (meeting rooms and storage).

- The North Campus looks more like a high school. The facilities need to be updated and given a face lift to attract students.
- Faculty would like all building entrances to be accessible. Also, rest rooms should have accessible entrance doors.
- Elevators need to be more reliable.
- There should be a dedicated Interfaith Prayer Room.

Communications & Media Arts (CMA)

- CMA classes are primarily taught at the South Campus. CMA classes at South and City Campuses are minimal.
- South Campus: "CMA is a big, strong, not well supported program." Require secure storage near Room 4218.
- Communication & Media Arts (CMA) is listed as being part of the English Department. Enrollment consistently between 170 and 200 for past 10 years. No changes in enrollment anticipated.
- Academic space needs: trends in online digital media; more lab space and computers are needed. Increased equipment needs create increased safe and secure storage needs.
- Department would like more smart classrooms and at least five dedicated computer labs for teaching space and student use.
- All CMA offices should be in same area.
- Currently occupy two offices for faculty and space for department secretary. Dedicated Editing Lab; use lecture halls for classes and share other classrooms with English Department.
- John Harrigan (F/T); 4115C
- Gina Stevens (F/T) and Richard Robison (F/T); 4115D (shared with English)
- Jeff Maciejewski, Dave Aragona, Mike Ferrell are all P/T faculty with no dedicated office space.
- Paulette Krakowski (F/T secretary); 4115
- Department would like to hire at least one more F/T faculty and two additional adjuncts.
- There should be a practice presentation room for students.

South Campus

- Many classrooms are too small to handle larger class sizes.
- Faculty would like to be located together to make it easier for them to collaborate with their peers and to make it easier for students to locate their professors when they need them. Additional office space is needed to accommodate adjunct faculty.
- The Video Editing Lab on the South Campus needs projection technology; could use an additional video editing lab that can accommodate up to 10 people.
- Faculty would like a space for storing equipment that also can be used as the area from which it is loaned out to students.
- The projection technology in lecture halls 5101 and 5102 needs to be updated.

English

- The English Department offers courses in service to other programs; it is not a degree program.
- Department prefers table and chairs in classrooms; dislikes tablet arm chairs. The small, one-piece desk/chairs are not appropriate for larger students or the disabled.
- Would like computers in their classrooms as "all collegiate writing is done on the computer."

Mathematics/Computer Science (MT/CS)

- One unit made up of three groups, each with a chairperson. Chairs meet regularly.
- Math and Computer Science are moving toward collaborative course work; especially with remedial algebra.
- Trends are also towards including computer-based programs along with traditional teaching methods.
- Students can only major in MT/CS at North Campus. Department provides service courses at City and South.
- MT/CS has a headcount enrollment of 2,242; approximately 112 Computer Science majors; 55 math majors; and 5 Web-Net students.
- Adjuncts have sufficient office space at North Campus; generally share an office with a F/T faculty member. Would like to keep faculty and adjunct faculty in same area.
- At City Campus; F/T faculty have adequate office space and secretarial support but adjunct faculty do not have offices, although they can use the Faculty Lounge on the fourth floor of the main building. Adjunct faculty teach approximately 40 percent of MT/CS courses at City Campus.
- Wi-Fi is weak so it is often difficult to use the portable "smart carts" effectively. Faculty would like more smart classrooms.
- Math Labs: City Campus has a good space; at North the Math Lab is near the Library; at South space is shared with the English Department, which works for both groups, but the room needs to be larger as it is often filled to capacity (six computer workstations).
- On the North Campus, MT/CS uses three shared labs in B-Building, all of which need to be updated.
- On the South Campus, 19 adjunct faculty share one office (4212D) with Placement Testing.
- South Campus: MT/CS faculty would like a Collaborative Learning Classrooms that is equipped with 25 computer stations along the perimeter of the room and 25 tables and chairs in the middle of the room that can be reconfigured easily. While they have identified room 3124 (1,015 sf) as a candidate for this space, 1,400 sf is really what would be needed for this type of room layout. 3124 is currently used by the EMT program but they are reportedly willing to share the space.
- Computer labs K236 (480 sf) and K238 should be larger because they also function as classrooms; closer to the size of B500 (738 sf) or B501.

Telecommunications Technology
Civil Engineering Technology
Computer Aided Drafting and Design Technology
Construction Management Engineering Technology
Electrical Engineering Technology
Industrial Technology
Mechanical Engineering Technology
Automotive Technology

October 16; 2:00- 3:00 PM

Ed Holmes, AVP Academic Affairs
Mark Hoeber, AAD Technology
S. Brian Rickert, Telecommunications Technology Chair, South Campus
Nathan Witkowski, Industrial Technology Chair, North Campus
Brian Moag, Construction Management Engineering Technology Chair, North Campus
Anthony Dalessio, Electrical Engineering Technology Chair, North Campus
Jean Stark, JMZ
Patricia Pietropaolo, JMZ

General Comments

- Telecommunications Technology is located on the South Campus (TV Production). The remaining Technology programs are located on the North Campus.
- Labs are not designed to be accessible.

Telecommunications Technology

- Telecommunications Technology (TV Production) also teaches Communication Arts students.
- The existing TV Production Studio is one-half classroom space and one-half production space. This provides sufficient space to support tele-presence for distance learning. However, the TV Production Studio needs to be upgraded to accommodate HD technology and new video-on-demand technologies.
- Department hopes to hire an additional full-time faculty member; need for an additional office.
- Additional computer lab space is needed; 10 computer stations with specific software.
- The Department is short of adequate lab space for teaching hardware, software, and networking skills. This lab must be shielded from the ECC network.
- Need more storage space.
- Adjunct faculty needs office space to prepare for classes and to meet with students.
- The biggest issue for the department is the need for additional full-time

faculty.
- The Verizon program represents a significant portion of the department's enrollment. Workers are voting on a new contract – could result in loss of enrollment in the four-year program. If the Verizon program ends, faculty would like to turn the Verizon Lab into a new Technology Lab.
- The department also supports traditional and Cisco Programs. Recently expanded Cisco program to include night and weekend classes.
- Lab B104 could be reconfigured.

Industrial Technology

- Department provides CNC Precision Machining one-year certificate and Industrial Technology AOS degree. 100% job placement. Went from 6 full- and part-time students in 2005 to over 120 students in 2012.
- Labs B306 and B307 (open lab in both rooms on Wednesday 1-5 PM). Run 28 classes out of the two labs.
- Water Jet machine is located in B308.
- Labs contain state-of-the-art technology. Equipment is funded through Perkins Grants.
- Utilization: labs run 8 AM through 10 PM, six days a week. Total of 41 total classes (use other rooms when possible), at 97.4% capacity.
- Four full-time faculty and twelve adjunct faculty (almost all of whom are at contractual maximum teaching load).
- Ed Holowinski is the NYS Apprenticeship Coordinator for the region.
- The Machining Club is the largest at ECC. Nathan would like to offer 8 hours of supervised lab time for students out of class but would require an additional lab.
- Workforce Development: GMC wants training courses for workers at ECC but the College cannot fit them into the schedule. This would require an additional 4 labs, according to Nathan.
- Program needs more space and more full-time faculty to meet growing need for program.

Construction Management Engineering Technology/ Civil Engineering Technology

- B-Building 500 wing (B500 and B501). B512 sometimes used for Engineering Science courses.
- All labs open for student use when courses are not scheduled.
- Library on has four computers dedicated to Technology. More are needed.
- The Construction Lab is tight for space; use trailer for construction materials. Would like a computer lab directly adjacent and accessible from the Construction Lab.
- Some sections should be capped at 12; some at 16.
- Two CAD rooms; both Civil and Construction Management students take CAD classes. There are also two hand drafting labs.
- Fifty percent of grads go on to four-year schools.

Electrical Engineering Technology

- B104 and B114 are underutilized. Functions in these rooms could be consolidated into one multi-functional room and then B104 and B114 could be renovated to create a large collaborative space equipped with computers, as well as some faculty office space.
- Degree program and certificate degree. Developing new courses and retooling the program. Would like to offer more advanced courses; venture into nanotechnology in cooperation with UB.
- Students need access to computers and specific programs in order to complete out of class work but there are currently not enough computers to accommodate their needs.
- B115 is used by Workforce Training. Students in these non-credit classes tend to disrupt regular classes as they mill about the halls and carry on loud conversations. EET faculty feels that the Workforce Development courses should not be taught in an academic building.
- Room layouts of classrooms and lab space in the B-100 wing are outdated and underequipped. B-113A was recently upgraded under a grant and functions well for the department. Although the room and equipment are currently shared with Industrial Technology, EET plans to increase use of the room, so an additional computer lab will be needed to accommodate both departments.
- Room B113B was also recently renovated and is now a high-quality lecture space. With a seating capacity of 32, it is a highly sought after space. Another smart classroom with the same capacity is needed.
- B106 was recently reconfigured (but could still use a face-lift) and it now works well for the department.
- B104 has inadequate electrical capacity for use by the PV course and it is inadequate for newly developed courses, as well as some existing courses. This room should be renovated to help create a multi-functional lab for Technology.
- Room B114 is the department's largest room but faculty feels it is practically unusable in its current state. It needs to be renovated to create a multifunctional lab that can be used for a variety of courses.

- The Department is working on several grants in an effort to get funding to renovate existing labs to bring them up to 21st century requirements. Faculty indicate they have the space they need; it just needs to be renovated and reconfigured to support the curriculum.
- Cap for lectures is 32 students; second year cap is 18 students; lab cap at 16 students.

Mechanical Engineering Technology

- Department would like a large lab/workshop for Capstone projects. Room would need to include one of each type of machine, such as: regular lathe, mill, sawing machine, grinder, welding machine, sheet metal cutting, bending and soldering equipment, and sufficient space for three student projects to be carried out at the same time.
- Faculty would also like more MET lab space with more equipment because presently 12 students work on one set of equipment at one time.

Automotive Technology
Automotive Trades: Autobody Repair
Architectural Technology/Construction Technology

October 16; 3:00- 4:00 PM

Ed Holmes, AVP Academic Affairs
Richard DiPronio, Autobody Trades Chair, South Campus
Gary Syroczynski, Automotive Technology Chair, South Campus
Tim Schnaufer, Architectural Technology/Construction Technology Chair, South Campus
Jean Stark, JMZ
Patricia Pietropaolo, JMZ

Automotive Technology

- Located at South-has good space but a computer lab is needed.

Automotive Trades: Autobody Repair

- Auto Technology program also has good space that also accommodates the GM, Ford and Chrysler programs.
- The building is not connected to ECC's computer system. They have a separate computer network system through Time Warner that is expensive.
- The computer lab needs to be update; maintain 18 computer stations.

Architectural Technology

- Space in Construction Lab is tight when students are all building structures.

Information Technology
Business Administration
Business Office Management

October 16; 4:00- 5:00 PM

Ed Holmes, AVP Academic Affairs
Marti Dixon, AAD, Distance Learning (South Campus)
Donna Kaputa, Information Technology Chair, North Campus
Louise Kowalski, Information Technology Chair, South Campus
Kathleen DeNisco, Business Administration Chair, North Campus
Jean Stark, JMZ
Patricia Pietropaolo, JMZ

General Comments

- Underfunding of the Maintenance Department has resulted in routine maintenance being delayed.
- More smart classrooms (with presentation technology and teacher's workstations) are needed because instructional methods are increasingly relying on access to the Internet, interactive activities, visual displays and demonstrations.
- Additional computer classrooms are also needed.
- Buildings on North Campus undergo extreme temperature swings making them very uncomfortable at times. This is the number one complaint of students, faculty and staff.
- All instructional spaces should be equipped with adult-size tables and chairs, not table arm chairs. They should all accommodate students with disabilities.
- Distance learning hybrid courses are scheduled as if they were regular classes, which negatively impacts room utilization rates. There were 91 hybrid course sections in fall 2012.
- ESL is run by Student Services, which offers no courses.

Information Technology

North Campus

- Enrollment has been steady over last several years. Cancelled night class last semester.
- Information Systems Security at ECC has been certified as a National Center of Academic Excellence 2-Year by NSA and Homeland Security. Department would like an upgraded laboratory for these courses-need to turn away students due to physical space and equipment restraints.
- Would like a dedicated lab – former dedicated lab space (G170) was taken away this semester to create the new One-Stop Center.
- Using a Computer Science Lab to teach security courses.
- Offices are located in G207.
- South Campus
- Two F/T faculty are located in Room 4102.
- The Department has no space issues. Updated computer classroom 4223 with Perkins Grant.
- More classrooms should be equipped with computers and a consistent number of student stations.

Business Administration

South Campus

- Office space is adequate but in need of a face-lift.
- Department obtained $100,000 grant to update their computer room and create one smart classroom.
- Would like one additional smart dedicated classroom.

North Campus

- More smart classrooms and computer labs are needed.
- Need office space for adjunct faculty.
- The open computer lab that used to be located in B-Building was closed so students now go to the Library to access a computer.
- Sometimes Business classes are assigned to Mechanical Labs or Science Labs that have sinks, burners, etc. These spaces are not suited for Business classes.
- The main office is too small. It does not have sufficient storage or work space.
- A conference room is needed for meetings.
- Offices for full-time faculty do not permit privacy when advising students and they are not adjacent to each other, making communication and coordination difficult.
- Adjunct faculty does not have offices. They need space to meet with students; prep for classes; access a computer, phone and storage space.
- Department needs a dedicated room for tutoring, not the storage/ workroom that currently doubles as a tutoring space.
- There is an NSF grant for Cyber Security that the Department is looking at. Ed spearheaded a collaborative effort with SUNYIT to create a Bachelor's program in Economic Crime.

Business Office Management

- Program was merged with Business Administration in 2011 to consolidate course offerings and increase overall enrollment.
- Space is sufficient due to the increase in on-line courses.
- The full degree program is only available at the North and South Campuses.
- At City Campus there are two smart classrooms that the department uses, and they can usually find another lab when needed. There is no F/T faculty located at the City Campus. After 12 students complete the program at City, the program will be deactivated at the City Campus.
- At South Campus there are two smart classrooms dedicated to Business Office Management.
- There is one F/T faculty located at the South Campus and one at the North Campus.

Criminal Justice
Police Academy
Culinary Arts
Hospitality Restaurant Management

October 16; 4:00- 5:00 PM

Ed Holmes, AVP Academic Affairs
Kenneth Barnes, AAD
Jim Lalime, Criminal Justice Chair, South Campus
Michael Kozlowski, Criminal Justice Chair, North Campus
Tomasina Cook, Criminal Justice Chair, City Campus
Paul McElvein, Criminal Justice/Crime Scene Technology
Ed Hempling, Police Academy/Homeland Security Program
Dorothy Johnston, Culinary Arts Chair, City Campus (Baking and Pastry)
Mark Wright, Culinary Arts Chair, North Campus
Sue Blanton, Administrative Assistant to Business Administration/Culinary/ Early Childhood
Tenée Casaccio, JMZ
Jean Stark, JMZ
Patricia Pietropaolo, JMZ

General Comments

- The lighting at the North Campus is dated and harsh, especially in offices.

Business Administration

- Computer lab space is needed (have to move around software licenses now); need more smart classrooms.
- Certificate in Financial Services will be deactivated. Certificate in Entrepreneurship may grow into a degree. All certificates count toward an AAS.

Criminal Justice

- CJ is offered at all three campuses.

City Campus

- Program is located in 45 Oak Street building along with Crime Scene Technology.
- Steady enrollment of approximately 200 students.
- Office space is good; has four offices for three F/T faculty and one adjunct faculty.
- Classroom 119 dedicated to CJ; seats 32 students but it is tight fit. Some special needs students have interpreters with them. There is no specialized equipment in the room.
- Classroom is used 9 AM to 7:30 PM, Monday through Friday. (Paralegal uses the space too.)
- Plan to add additional CJ electives to the curriculum and growth is expected.

North Campus

- CJ, Homeland Security, and Crime Scene Technology courses are all offered at North Campus.
- CJ is the second largest program at North with 579 students. (General Studies is the largest program.) Steady enrollment over last several years although down from a peak of approximately 700 students in 2009. Department anticipates an increase in enrollment as displaced workers and former service men and women look for retraining.
- Located in B-Building; 400 wing. Offices in B408: 6 F/T faculty and 12 adjunct faculty. All have shared offices. Additional office space is needed as the shared faculty offices are only around 100 sf each. There is no privacy for faculty to speak with students. (Note: per Ed Holmes, ECC policy is for two F/T faculty to share an office.)
- There is no place for the department to hold meetings; they would like a conference room.
- Most classrooms are too small to properly accommodate 32 student seats, but that is the enrollment target for many courses.
- Faculty push around AV carts because there are not enough smart classrooms. Setup and breakdown of AV cart equipment takes time.
- B413 is not a smart classroom.
- Smart classrooms that properly seat up to 40 students are needed for CJ courses.
- The Department would like dedicated use of at least five classrooms, all of them smart classrooms.

South Campus

- 188 matriculating CJ students; service courses for an additional 145.
- Need updated technology in classrooms and more computers in labs so students can use e-books.
- Program started on South Campus only four years ago.
- Two F/T faculty (recently added one of them) and 7 adjunct faculty; share an administrative assistant with IT. Office space is sufficient.
- Course enrollment cap of 30-32 students.
- Classroom space is the primary issue. It is difficult to secure a classroom because other departments claim them, but many times these rooms are frequently vacant.
- Equipment is "still back in 1973;" needs to be updated.
- There are many jobs in Homeland Security that need to be filled.

Crime Scene Technology

- Offered at North and City; both campuses have CST labs. Started in 2008. Approximately 45 F/T students between the two campuses.
- There is only one F/T faculty for the Program (Paul McElvein-North Campus), who also teaches CJ classes. There are three adjunct faculty.
- One-year certificate; faculty encourage students to combine it with an Associate's degree in CJ.
- Approximately one-half of enrollments are CJ students, but also seeing Nurses interested in Forensic/ER.
- The program is intended to be more hands-on than lecture oriented. It is essential that all technology be up to date to provide students with the training they need.

- Ideally, each campus would have one room set up for mock crime scenes, another for processing evidence, and a third smart classroom for work on computers.

City Campus

- Uses Room 138 (computer lab) but doesn't need the computers. Just needs access to a smart classroom where they can do "messy stuff."
- Faculty office in 108.
- Some courses are offered at South but the campus does not have a CST lab.

North Campus

- Share classrooms with other departments. Challenges having to back and forth between two buildings for classes.
- B409 is the Crime Scene Technology Lab. There is lots of equipment in the room but it is too small to effectively set up as a mock crime scene. Room has hood for fingerprinting; also use it as a meeting room. Require a larger, dedicated lab that could be shared with CJ and the Police Academy, along with a dedicated smart classroom.
- CJ, Police Academy and CST all work well together.
- Faculty office space is tight and it is difficult to secure the rooms. Things are often stolen.
- Classes are technology intensive so it is very problematic when classroom technology does not work. Technology throughout the campus needs to be updated.

Police Academy (North) and Homeland Security (Certificates)

- Homeland Security enrolled 126 students this semester; up from 40 just 5 years ago. Two courses taught at each campus per semester.
- Joint certification possible within two years: CJ and Homeland Security.
- The Police Academy is not accredited with SUNY; department does in-service classes for State Police. 30 credit hour program. Two-year degree requires fire arms training.
- Police Academy enrollment has increased steadily over the last five years. Historically class sizes averaged in the low 30s; the past two semesters have seen enrollments of 60+. The Department anticipates enrollments will continue to increase. The Department plans to begin training new corrections officers, as well.
- Breaking even for ECC as of late. Program "adds luster" and strengthens other ECC programs.
- Use off-site locations for situation training and firing range. Would like a Scenario Room that can be set up for a variety of situations and a firing range on campus.
- Share athletic space with other departments, but would like their own space. Schedule conflicts with some sports teams and summer camps.
- Biggest evaluation complaints from students: outdated equipment, facilities, poor HVAC control in buildings, and lack of a firing range.
- There is an overlap with the Police Academy and Homeland Security.
- Faculty identified a special need for Academy expansion to offer police practicals in firearms, defensive tactics and physical fitness education.

The existing Bell Athletic Facility does not have sufficient space for police academy training.

- Specific space needs identified by faculty for expansion of the Police Academy:
  - An additional smart classroom.
  - Dedicate Rooms 712B and 712C to the Firearms Unit and Driving Simulator.
  - Require approximately 1,200 sf of additional storage space.
  - Indoor firing range with 10 stations; approximately 6,700 sf.
  - Defensive Tactics Room: 2,000 sf (open gym-type space) would provide sufficient space to train up to 30 recruits at one time.
  - Weight Room/Exercise Area: Would be used for weight and cardiovascular training; approximately 1,500 sf.
  - Lockers/Showers/Restrooms: Adjustable space to be able to accommodate various combinations of male and female trainees; approximately 1,830 sf.
  - Total area requested in addition to existing space (which is approximately 8,000 sf according to faculty): approximately 13,000 sf.
- Homeland Security requests one classroom for up to 25 students (faculty calculate 800-1,000 sf) and a second room for the incident command board (model city) that can accommodate up to 20 students (faculty calculate approximately 800-1,000 sf).

City Campus

- Located at 45 Oak Street Building - Room 138 is the Crime Scene Lab.

North Campus

- Would like a room that could be used for the Crime Scene Lab. The trailer that is currently used as the Crime Scene Lab is too small and in the winter it is difficult to access due to snow, and the lab is cold.
- Graduate are proud of ECC. Would like a museum areas (display cases) for exhibiting badges, commendations, etc.

Culinary Arts

- The Department has the same programmatic offerings at North and City.
- Program initiatives include pursuit of an upgraded Baking and Pastry Curriculum that will result in an Associate's degree. Interested in developing a Catering Curriculum and a Club Management Curriculum at North Campus.

City Campus

- Department requires a separate Baking Lab. Currently the Production Lab (used to prepare hot meals for students and Child Care) is used during the morning and at lunch. At 3 PM it becomes the Baking Lab, but the temperatures required for the different labs vary too much to make this a good arrangement. There also is not enough space for the equipment for both programs.
- The Production Lab has 12-14 student stations but 22 students were recently accepted to the program. Admissions doesn't want to turn anyone away. However, students become disgruntled when they are

squeezed into the lab and some leave the program. A larger lab is needed.
- The 1st year students work in the Production Lab and the 2nd year students work out of the Statler Lab (for the restaurant), which is well equipped and appropriately sized.
- Faculty gave up office space to create the Café and the Baking Finishing Lab.
- More storage space is needed.
- Require larger labs to "properly and appropriately teach students Culinary and Baking & Pastry Arts;" storage space for large pieces of equipment; and offices that are near labs so faculty is more accessible to students.

North Campus
- Cafeteria kitchen is used as a lab Monday through Thursday. There is a small bake shop.
- The Erie Room Restaurant, which was just remodeled using a Perkins Grant, is open for 16 weeks.
- 48 students are in the Café lab at the same time.
- Restaurant Management shares space with Culinary Arts. They use the lab on Fridays.
- 1st year students (60 students in three classes).
- 1st year students taking five to six semesters to graduate because they can't get into the courses they need to graduate.
- The Department has grant money to renovate an old locker room to create a cooking lab/baking lab.
- Lost a F/T faculty member who was not replaced so faculty is currently overloaded. Would like to have a F/T Pastry Chef.
- Quantity and quality of office space is good.
- Adequate storage space.
- S134 is the Small Quantity Food Lab that is used by 1st year students; eight student stations – one is accessible. 18-20 students in lab at one time.

Hospitality Restaurant Management
- Department is located at North Campus.
- Enrollment has been steadily increasing each academic year: 60 students in Hospitality Restaurant Management (HRM) and 110 in Culinary Arts on the North Campus.
- There is concern that Niagara County Community College's new downtown Niagara Falls facility will have a detrimental impact on ECC's recruitment/ retention efforts.
- The Statler Dining Room kitchen area was recently renovated, as was the Small Food Lab. Faculty feels that a significant expansion and renovation project is required if the program is to stay competitive with other community colleges.
- The proposed Baking Lab at North Campus will be used by both Culinary Arts and HRM.
- HRM is "mandated" to provide a changing area/locker room for students to change out of lab uniforms into street clothes at the end of class. Such as space does not exist.
- HRM is currently housed in the Spring Student Center on North Campus.

Erie Community College
Academic Programming Interview Summaries
October 16-18, 2012

Biomanufacturing
Clinical Laboratory Technology (CLT)
Emergency Medical Technology (EMT)
Health Information Technology (HIT)
Medical Assisting (MA)

October 17, 12:00 noon

Ed Holmes, AVP Academic Affairs
Gail Lauritsen, Health Information Technology, North Campus
Marcia Bermel, Clinical Laboratory Technology/Medical Assisting, North Campus
Steve Carlo, Emergency Medical Technology, North Campus
Joseph Gonter, Emergency Medical Technology, South Campus
Kris Gorman, Biomanufacturing, North Campus
Fred Rodgers, IRAAP
P.J. Wiles, Associate Vice President Academic Affairs
Jean Stark, JMZ
Patricia Pietropaolo, JMZ

General Comments
- Environment in B building is unacceptable. It is either too warm or too cold.
- Classrooms and laboratories lack smart technology.
- One Technical Assistant/Student Support/Department Secretary supports EMT, CLT and MA. (No office location was mentioned.)

Clinical Laboratory Technician (AAS)

North Campus
- The Clinical Laboratory Technician program emphasizes development of laboratory skills and the use of state-of-the-art equipment in the analysis of blood and body fluids, as well as computerized patient data entry systems. Students gain the skills necessary to perform effectively on the Board of Certification Licensure examination.
- The almost 60 student program is taught in the B600 wing of North Campus.
- One out of the 4 laboratories used by the program is a smart room. B610 and B612 laboratories lack instructional smart technology and have not been remodeled. Ventilation in B610 is poor. B608 has 3 beds, 10 spaces and no tables for equipment. There is not enough storage space; the room should be larger. B607 is a smart room but it only has 30 seats.
- B614 lacks instructional smart technology and is shared by 5 departments/programs (CLT, MA, Chemistry, HIT and EMT).
- B204 is a computer lab but it only accommodates 24 students.

- Appropriate size desks are required to accommodate students; tablet arm chairs are often too small.
- Space/room is needed to store required program equipment.
- F/T faculty include, Susan Gallagher, Barbara Rizzo and Sonja Miller.
- Jeanie Bryant, Christine Chipp, Josephine Degnan and Palema Huber are P/T faculty.
- Deboraha Grambo and Sharon Interdonato are support staff.

Medical Assisting (AAS)

North Campus

- No new space was requested for Medical Assisting at the meeting, but the written material indicates that computer laboratory access is needed for students in 6 new medical assisting courses mandated by accreditation in the Medical Assisting and Medical Office Practice programs.
- Classroom space is needed for a smart MA classroom since B608 has a maximum capacity of 10 student desks. The classroom should also be equipped with tables for phlebotomy training and locked storage of equipment.
- Program has been revised and new faculty hired.
- David Sylvia is the F/T faculty member and there are 3 P/T faculty; Laurie Dentinger (teaching 34 credit hours/yr), Jackie Gaiser (teaches evenings) and Deborah Run (teaches Saturday).
- Deboraha Grambo and Sharon Interdonato are shared support staff with the CLT program along with the Technical Assistant and department secretary. (No office space indicated.)

Health Information Technology (AAS)

North Campus

- HIT is accredited by the Commission on Accreditation of Health Informatics and Information Education (CAHIIM).
- Graduates of the Health Information Technology program are eligible to write the National Qualifying Examination for certification as a Registered Health Information Technician (RHIT).
- Most students are taking the program as retraining rather than entering as recent high school graduates.
- HIT is offered at North Campus and no collaboration with other ECC campus is planned at this time.
- Enrollment has been consistent at 50-60 students for the last several years.
- Class size has averaged 30 students each semester. Two laboratory sections are offered for each lecture section. This arrangement provides sufficient space for lectures, but not enough laboratory space in classroom/lab B400.
- Faculty request teacher work stations/smart classrooms for lecture/ laboratory classes.
- There is concern that laboratory sections taught outside the HIT laboratory are not in an environment that is conductive to learning and

web-based instructional tools are not available.
- Program initiatives include moving with changes in the field to a total Electronic Health Record which will require updated computer laboratories with wireless internet connections.
- Two computer laboratories will be required to support the updated program.
- Faculty want to change the mode of instruction to include more Internet courses with the possibility of offering the program entirely online. Additional staffing will be required if the program goes totally online.
- The faculty would like to have offices and classrooms/laboratory in the same building and their current location is convenient for staff and students.
- Students with disabilities are accommodated including those who need wheelchair access, students with vision and hearing issues and other disabilities.
- There is concern about the use of the HIT laboratory for other courses after 5:00 p.m.
- Current staffing includes Gail Lauritsen, Department Head-(F/T), Jean Jurek, (F/T) and (F/T) secretary Renee Prisaznuk. All share office space in B503B.
- Part-time faculty member Nancy Little is hired every semester and also shares office space in B503B.

Biomanufacturing (Certificate)

North Campus

- The Biomanufacturing Certificate (1-year) was started in 2010 and is offered at the North Campus.
- Biomanufacturing is designed to provide local businesses with college graduates who have basic biomanufacturing principles and laboratory skills necessary for entry-level employment.
- Enrollment has been increasing to provide local food manufactures and drug manufacturing industries with skilled employees. There are approximately 30 food related companies in the Buffalo area with over 200 workers and about 15 companies involved in pharmaceuticals. Some 4-year graduates enroll via reverse articulation for retraining to gain skills for employment.
- Currently there is 1 F/T faculty member, Chris Gorman and 1 P/T faculty member.
- A 2-year degree is planned to attract high school graduates and would require the addition of another F/T and 2 P/T faculty. Goal for new degree program is 30 students; goal for certification program is 20 students.
- Both smart lecture and laboratory space is required. The lecture space has the potential to be shared while the laboratory space needs to be dedicated to the program. (Diagram provided.)

Emergency Medical Technology: Paramedic (AAS)

South Campus (Day and Evening)

- The EMT: Paramedic Program at the South Campus is designed to meet the national standard for Emergency Medical Technology: Paramedic. The program's primary objective is to prepare students to become certified as paramedics and provide effective components in the delivery of pre-hospital advanced life support. The full-time (day and evening) program consists of 53-weeks of study running from August to August.
- Students must have completed basic EMT prior to acceptance in the AAS program. Basic EMT is offered at both North and South Campuses.

General Comments

- All EMT courses cap enrollment at 20 due to equipment/instructor/space constraints.
- Although EMT: Paramedic is only offered at the South Campus, basic and intermediate EMT programs are offered at both North and South Campus.
- Student access to computers is needed for required course work for accredited program.

South Campus

- EMT: Paramedic is an equipment intensive program. No new space required for accreditation, but computer access is needed to track the skill progress of students.
- A 2-3 bay garage is requested for demonstrating extrication of victims from an automobile. The garage should be close to EMT classrooms and laboratories to allow for skill station rotations.
- Dedicated ambulance modules are requested for some of the labs (particularly in 3110). Also, an ambulance simulator with audio/visual capacity situated in a garage is requested.
- Dedicated EMT space includes: Room 3130- which accommodates 5 faculty offices/storage/office suite for secretary; room 3100- which has 6 breakout rooms for skill practice/large multipurpose classroom/storage; room 3110 - a former chemistry laboratory with laboratory tables still in place. Room 3100- has a large classroom/1-small classroom/storage room.
- Shared space includes: Room 3104, the only smart classroom- accommodates a large classroom/3 small storage rooms; room 3113- classroom; room 3124- classroom; room 3126- classroom.
- All of the EMT programs offered at South campus share the available rooms. Programs include- Paramedic: day and evening; Intermediate course; Paramedic recertification course; Intermediate recertification course; EMT basic course.
- Courses run for varying lengths of time from a semester to 5 months and the paramedic program takes 13 months to complete. Class times are not based on standard class scheduling but rather run for 3 to 6 hours on various days/evenings.
- EMT fulltime faculty all have office space in 3130 with the part-time department secretary. F/T faculty include: Steve Carlo, Scott Corcoran, Joseph Gonter, Abigail Harning, and Thomas Luke.
- Part-time faculty (CIC's) are: James Cleveland, Denise Cuillo, Sharon Dimpfl, Mike Mazurowski who all share 3130 with the F/T faculty. P/T Gregory Jankiewicz and Patty Vaccaro are shared with North Campus where their offices are located.

North Campus

- Smaller individual areas for skill assessment are needed as NYS EMS mandates separate evaluation areas. Require 14-20 skills assessment stations.
- During evening classes' student perform skills on the floors of the hallways.
- Separate written testing areas are not available.
- Smart space is short for classes and laboratories.
- Current storage space in shared teaching space in rooms 602 and 612 (laboratory) is not accessible when classes from other programs are in session.
- Built in smart technology teaching space is requested. Currently carts are used to transport technology between rooms. Carts are stored in two small shared faculty offices.
- EMT space includes: Room B722 (primary classroom) and B614. B722 has smart technology while B614 does not. B614 is shared by 7 departments on North Campus. B722 has tables that need to be knocked down when practicing skills and chairs have to be stacked. Department would like a dedicated room so it can be set up as needed all the time.
- Steve Carlo is listed as the single F/T faculty member. P/T senior faculty include: Patty Vaccaro, Gregory Jankiewicz, L. Finkelstein and D. Thiel. Certified Lab Instructors: J. Adolf, M. Armstrong, E. Bordonaro, S. Leonard, D. Szetela, K. Kerl, L. Murtha, M Wetzler, A. McCandless, R. Iggulden, J Seyler, J. Pajak.
- Louise Cervi is the F/T department secretary for EMT, CLT and MA. Her office is B613.
- All faculty share 2 small offices with the inner office- B615 being accessed by going through the outer one, B615. The technology carts are also stored in the office space. Up to 15 adjunct faculty use office; need more space.
- B612 is a large walk-in incubator this is currently used to store mannequins and 2 stretchers.

Dental Assisting/Hygiene
Dental Laboratory Technology
Dietetic Technology
Ophthalmic Dispensing
Nursing

October 17; 1:00 PM

Ed Holmes, Associate Vice President Academic Affairs
P.J. Wiles, Associate Vice President Academic Affairs
Joseph Sowinski, Dental Hygiene Chair, North Campus
John Godert, Ophthalmic Dispensing Chair, North Campus
Margaret Garfoot, Dietetic Technology Chair, North Campus
George Tasevski, Dental Laboratory Technology, Adjunct Faculty, DLT
Jean Stark, JMZ
Patricia Pietropaolo, JMZ

Food Service Administration-Dietetic Technology-Nutrition Care (AAS)

North Campus

- The primary objective of the Food Service Administration-Dietetic Technology-Nutrition Care curriculum is to prepare technicians to interview patients regarding food patterns, counsel patients in dietary practices, report nutritional status and progress to other health care professionals, monitor food consumption of clients, calculate nutrient components and plan and supervise food service.
- The Food Service Administration-Dietetic Technology-Nutrition Care Program is accredited by the Commission on Accreditation for Dietetic Education of the American Dietetic Association. Graduates of the program are eligible to write the registration examination for dietetic technicians.
- Twenty-four students is the maximum per year.
- Currently there is 1 classroom for the program and it is too small-G153. The laboratory G147 contains 6 stations and could be enlarged to 12 stations.
- There is a request for a smart classroom and a laboratory with 4 stoves and a prep area that would be used for 2 2-hour labs each fall.
- F/T faculty are Margaret Garfoot and Katherine Krais.
- P/T faculty include: Susan Dudek, Sheryl Warren and Elizabeth Drozd.
- All faculty share an office-G149 along with the P/T department secretary, Mary Gentile.
- There is no expectation of personnel changes in the near future.

Dental - General

- There are approximately 400 applicants annually with 60 accepted.
- There is a waiting list of pre-dental/hygiene students to enter the programs.

Dental Laboratory Technology (AAS)

South Campus

- The goal of the Dental Laboratory Technology Program is to train students to be capable of the design, fabrication and production of dental prostheses, including full and partial dentures, crowns, bridges and orthodontic appliances.
- Current Dental Laboratory Technology laboratories at South Campus accommodate students confined to wheelchairs.
- Enrollment is anticipated to remain approximately the same for many years.
- The Buffalo Niagara Partnership is working to bring a dental manufacturing business to the area.
- A dental CAD/CAM course is being added to the curriculum. Additional equipment that is required has been obtained.
- A dedicated room is requested for the CAD/CAM with 12 student and 1 faculty station.
- Existing facilities have ventilation to the outside with blower systems for removing fumes and desktop vacuum systems.

- The large multidiscipline laboratory has 50 student stations. Two slightly smaller laboratories, 1 with 40 student stations and 1 with 20 student stations would better serve the program needs. Diagram included.
- The casting lab ideally should be located between the 2 smaller laboratories.
- Request is made for 2-30 station laboratories: 1 lab to be used for Ceramics and 1 for Cosmetics.
- An additional F/T instructor is requested.
- F/T faculty: Marvin Herman, Dept. Head; office 2109A; John Lenahan, office 2109B.
- P/T faculty: Raymond Rayeski, office 2212. Raymond Wittmeyer, Gary Slootsky, and George Tasevski are in office 2217.

Dental Assisting, Certificate

North Campus

- Many courses are the same as the Dental Hygiene program.

Dental Hygiene, (AAS)

North Campus

- Dental hygienists are valuable members of the dental health care team who work with dentists to provide oral health services to patients. The Dental Hygiene Program is accredited by the Commission on Dental Accreditation.
- Requested a laboratory designed for dental assisting students with 8 stations; plus storage space.
- A faculty position is requested for dental assisting; an office will be needed.
- One smart classroom is requested.
- Amy Anderson is the Department Chair for dental assisting.
- Joseph Sowinski is the Department Chair for dental hygiene.
- Additional storage space is needed.

Ophthalmic Dispensing, (AAS)

North Campus

- Ophthalmic dispensers (opticians) are licensed professionals who dispense eyeglasses and/or contact lenses to the public from prescriptions written by eye doctors. Upon graduation of the program students participate in credentialing exams administered by the American Board of Opticianry and the National Contact Lens Examiners and state licensure exams through the Office of Professions, New York State Education Department.
- Program is capped at 36 students per year.
- Program has 4 dedicated rooms/labs.
- B109 is the contact lens lab with 8 stations.
- B107 is the dispensing lab with 12 stations.
- B110 is the fabrication lab; ventilation in this room is marginal.

- B112 is the smart classroom/lab with 36 desks.
- Storage and office space is in B111.
- B108 is storage.
- An Ophthalmic Assisting Lab is requested that is similar in size to B107; 12 stations.
- The three program faculty hall have private offices.
- John Godert is the Department Chair at North.

Nursing, AAS

City (January Admittance), North (September Admittance Only)

- The program is accredited by the National League for Nursing Accrediting Commission, Inc.
- City: 90 students- day only; admitted in spring.
- North: 120 students- day and evening programs; admitted in fall.
- Biggest need is at North where there is only 1 lab; need additional.

Occupational Therapy Assistant
Radiologic Technology: Radiation Therapy Technology
Respiratory Care

October 17; 2:00 PM

Ed Holmes, Associate Vice President Academic Affairs
P.J. Wiles, Associate Vice President Academic Affairs
Patricia Bennewitz, Radiation Therapy, Chair City Campus
Betsy Jones, OTA, Chair North Campus
James Bierl, Respiratory Care, Chair North Campus
Jean Stark, JMZ
Patricia Pietropaolo, JMZ

General Comments
Occupational Therapy Assistant, (AAS)

North Campus

- The Occupational Therapy Assistant curriculum prepares entry-level occupational therapy assistants to work in community and institutional health care programs, providing direct service to individuals.
- Twenty-four students are accepted into the program each fall.
- Enrollment is not expected to change.
- Certification exams are given online.
- The program is not expected to grow.
- Current lab configuration is inappropriate for student practice and learning.
- Floor is slippery and temperature regulation is a problem.
- Lab space does not allow students to sit in desks/chairs but rather the room is equipped with tables and uncomfortable chairs to adapt to the minimal space.

- Currently have 2 lecture rooms they can use.
- Laboratory space is an issue. It is not adequate according to Chair. Furniture in both the pediatric and simulated hospital/rehabilitation labs (K119 & K114) has to be moved around and stacked to provide floor space for students to practice interventions and to allow for demonstration/practice.
- F/T faculty: Betsy Jones, program director, office K122B; David Merlo, Office K113.
- P/T faculty: Debra Battistella; Colleen Neumann; Evelyn Post-Dunn, Retta Martin, and Karen Milovice co-teach one course.
- P/T faculty do not have an assigned office. They share a desk in K113.
- Office space is acceptable.
- A new co-requisite lab to compliment lecture course OT219 is being developed as mandated by accreditation standards and must be in place by July 31, 2013.
- Shared lab space is requested to teach the new lab (for OT219) and for students to practice documentation related to electronic medical records.
- Need access to a computer lab with 24 stations.
- Requested dedicated space: (1) increase K-119 from 21' X 22' to 22' x 60' with additional storage space, ceiling suspension, smart class and smart board. (2) Increase K 114 from 22' x 53' to 22' x 75' with additional storage space, plumbing, power strips, smart class, adapted kitchen area and orthotics area with a non-slip floor. Also requested is space allocation for an accessible bathroom, bedroom and kitchen.

Radiologic Technology: Radiation Therapy Technology (AAS)

City Campus

- The Radiologic Technology: Radiation Therapy Technology curriculum is designed to provide students with the knowledge and cognitive skills necessary for the competent performance as an entry-level radiation therapy technologist. It is completed over 24 calendar months of full-time study.
- Upon completion of the courses and the clinical work, graduates qualify to apply to the American Registry of Radiologic Technologists examination for certification in radiation therapy technology.
- The program is accredited by the Joint Review Committee on Education in Radiologic Technology and the State of New York Department of Health.
- Eighteen students are enrolled annually for the 24-month program, which includes summers. No intention to increase program size as employment is tight.
- Request to move P/T coordinator to F/T. It is a JRCERT requirement.
- An X-ray computed tomography certificate is being developed.
- The lab/classroom 142 is good size, but needs a sink with a hand dryer, a block cutting area with vent and locked storage area.
- A small area in office- 147 is requested for private student/instructor meetings.
- Program has 1 F/T faculty member: Patricia Bennewitz, Chair; 147.
- P/T faculty: Jill Giannantonio, clinical coordinator; James Vaughan, physics instructor: Michael Rajecki, physics instructor; Bilal Mahmood; William Tokasz all share office space in 147/142. P/T instructor Richard Harvey is off

campus at UB.
- Department secretary Cindy Dyll office is 113.

Respiratory Care (AAS)

North Campus

- Graduates of the program become eligible to obtain the Certified and Registered Respiratory Therapist credentials. Graduates can then apply for a license to practice through the Office of Professions, New York State Education Department. The Respiratory Care Program is fully accredited by the Commission on Accreditation of Respiratory Care (CoARC). Programs may be moved to 4-year degree requirement.
- There is no anticipated change from the current 30 students in the program.
- Respiratory care uses G211 for a classroom and G215 for laboratory courses.
- G211 is too small. The program requests the use of a smart classroom for TTH 9-4.
- G215 is a laboratory with computers in the back of the room. If computers were moved out, room would be sufficient space. Need storage space.
- The program has 1 SIM laboratory now. There are approximately 10 SIM labs on campus.
- There is potential to develop a 'sleep medicine program' for 5-10 students. Lab space would be required for the new program.
- Two F/T faculty and 1 P/T VA share an office.
- James Bierl, F/T faculty and Chair shares an office with a P/T secretary.
- The 8-10 P/T faculty do not need office space.

Building Management and Maintenance
Building Trades/Residential Light Commercial, Certificate
Green Building Technology, Certificate
Heating, Ventilating, Air Conditioning & Refrigeration, Certificate

October 17; 3:00

Ed Holmes, Associate Vice President Academic Affairs
Andrew Sako, Chair Building Management and Maintenance, City Campus
Jean Stark, JMZ
Patricia Pietropaolo, JMZ

Building Management and Maintenance (AOS)

City Campus

- The Building Management and Maintenance curriculum prepares students to assume key positions in fields of facility operations and property management. The curriculum is unique among New York State colleges in providing this technical and managerial training.
- The program was developed by working with industry to develop skills

required. (This process may provide a model for developing the requested workforce programs.)
- Labs have been updated recently.
- HVAC program taken over by Building Management Chair.

Building Trades/Residential Light Commercial, Certificate

City Campus
- The Building Trades/Residential Light Commercial curriculum is a unique, hands-on and technical one-year certificate program. The objective is to produce graduates capable of renovating and updating structures.

Green Building Technology, Certificate

City Campus
- The Green Building Technology Certificate Program courses highlight building construction methods that include: conservation techniques, environmental awareness in material reuse and energy efficient mechanical systems. Greening the building sector can be accomplished with existing technology that typically offers an outstanding return on investment.
- All of the program courses would be based on the five main categories of the LEED Green Building Certification: sustainable sites, water efficiency, energy and atmosphere, materials and resources and indoor environmental quality. Would like to grow this into a 2-year degree.
- Uses a demonstration house at south and offices.

Heating, Ventilating, Air Conditioning & Refrigeration, Certificate

North & City Campus - evening only
- The Heating, Ventilation, Air Conditioning and Refrigeration Technology Certificate Program prepares individuals to apply technical knowledge and skills to install, service, repair and maintain the equipment used in heating, air conditioning and refrigeration systems.
- Lab in 45 Oak; 137 which is small. It would help if they could access 138A. if program also had use of 138 they would have sufficient space.

City
- Current lab is OK unless HVAC diagnostics are added.
- Room 450 is OK.
- New equipment was purchased with Perkins funds.
- Storage is available, but a small classroom attached to equipment room would be helpful.

North
- No information provided.

Erie Community College
Academic Programming Interview Summaries
October 16-18, 2012

Early Childhood
Emergency Management
Fire Protection Technology
Health and Physical Education Studies
Recreational Leadership
Paralegal

October 18; 12:00 - 1:00 PM

Ed Holmes, AVP Academic Affairs
Kenneth Barnes, AAD
Pat Kemp, Early Childhood, Chair City Campus
Dave Bochynski, Chair Health, Physical Education & Recreation, South Campus
Rosa Gonzalez, Chair EM City and Chair FPT South Campus
Joseph Krenitsky, Chair Paralegal, City Campus
Jean Stark, JMZ
Patricia Pietropaolo, JMZ

Early Childhood, (A.A.S.)

City Campus

- The Early Childhood Program consists of early childhood education courses, liberal arts courses and practical field experience with infants and young children. Students working in the field may apply for a waiver/or LEAP credit for Labs I, II or III, depending on experience. Many of the required Early Childhood courses are offered during both the day and evening.
- Those interested may take 12 credit hours in the Early Childhood Department to meet New York State daycare regulations.
- There are 175 students enrolled for the fall 2012 semester; outlook is strong.
- Some graduates transfer to 4-year programs others are employed directly and some meet the NYS requirements and open their own child care facility.
- The program uses smart classrooms that are shared with other programs.
- Satisfied with space on 2nd floor of old Post Office building.
- One more smart classroom is requested.
- Day care is available at 3 campuses, but they are not teaching units, therefore not tied to the Early Childhood program. Would like to go back to being a lab school some day.
- The program partners with UB and Westminster for student laboratory experiences.
- Enrollment is down slightly from last year probably due to demographics and changes in financial aid funding. A strong enrollment is expected to

be regained and continue. ECC has the only 2-year degree program in Early Childhood in the Western NY area.
- Transfer to 4-year colleges is successful and articulations with BOCES help feed local students into the program.
- An initiative to extend opportunities to the Seneca Nation is on hold till a vacant faculty position, due to retirement, is restored.
- If Seneca Nation initiative moves forward, use of one classroom at South Campus (probably in the evening) will be required.
- No plans to expand program to other ECC campuses.
- Current classroom space is sufficient- most are smart rooms. All classrooms are smart rooms except 428 and 476-not used at this time.
- The Resource room, located in the outer office of Room 204, is used by students to collaborate on projects. The facility should remain close to faculty offices to allow mentoring and student advisement.
- Classroom use:
- o Fall- Rooms 304, 314, 428, 440, 476, and 530; 12 courses are taught off campus.
- o Spring- Rooms 304,420, 428, and 530; 11 coursed are taught off campus.
- A smart cart is used daily to transport technology.
- Room 530 is a former science lab with built in lab stations that are not conducive for collaborative learning so the room is used for storage, especially of bulky items used daily in classroom workshops.
- F/T faculty: Pat Kemp, Chair; Lori Fallon.
- P/T Eliza Franz; Pat Logan; Amy Kot-Barone; Karen Dearing; Valerie Halla; Dawn Thompson.
- Non-teaching technical professional (NTTP): P/T Donna Bertini.
- Sr. Clerk Typist: Sue Blanton- shared with Business and Culinary. Room 575 – Business Department Office.
- The outer portion of Room 204 houses the Resource Room and Donna Bertini's (NTTP) desk and the inner office houses F/T faculty, a desk for P/T faculty, smart cart and TV.
- The P/T (NTTP) position is expected to be moved to F/T.
- Restoration of the 3rd F/T position has been requested in the program's Review Action plan.

Physical Education Studies, (A.S.) Courses offered on 3 Campuses
Recreational Leadership, (A.A.S.) The program is being discontinued as of May 2013

- The curriculum provides a unique set of courses which were written incorporating the National Association for Sport and Physical Education (NASPE) Standards for Pre-Service Physical Education Teachers. These specialty Physical Education Studies courses are merged with courses designed to meet SUNY General Education requirements. The coordination of learning with shadowing experiences leads to solid transfer opportunities at four-year institutions in the physical education specialty area.
- The Health, Physical Education and Recreation (HPER) Department offers many health, physical education, therapeutic recreation and recreation

courses on all three ECC campuses. This allows students to experience a wide variety of course offerings tailored to their specific career goals.

General Comments

- The Health and Physical Education Department is a service department for the College and currently offers two academic programs (one is being discontinued).
- They are a 3-campus department with a single chair for all three campuses.
- Lifeguard instruction is offered at City. The pool has been converted to exercise facilities and lockers at South.

Recreational Leadership

- Under enrollment has led to program discontinuance May 2013.

Physical Education Studies

- Had shown a steady increase in enrollment and is now leveled off at about 180 students.
- New program initiatives are: a Health and Wellness degree and a certificate in Exercise Science/Personal training.
- Space and equipment will be needed for the programs being developed.
- City Campus has a pool, but South and North do not. Pools are requested for both North and South Campuses. South's pool was filled in and is being converted to a new Fitness Center and locker rooms.
- A small room to use for specialized/smaller classes like Yoga is requested for both North and South Campuses. The small room would free-up the gymnasium for other uses.

Space

City

- Office space is limited. Two F/T and 11 P/T share one office and a desk in another office. Gym, computer lab and pool are adequate.

North

- Office space is limited. Two F/T and 13 P/T share an office plus a closet size space. Classrooms computer lab and gym are adequate.
- 2-smart classrooms dedicated to health courses. Equipment is stored there also.
- A pool and a larger fitness room are requested.
- Would also like an exercise room for yoga, etc.

South

- Five F/T and 11 P/T faculty are in part of office suite 6206 and in two other offices in building 5. Classrooms and gym are adequate.
- A pool and a student computer lab are requested.
- When the new fitness center is completed-it is hoped that the faculty housed in offices in building 5 will join the faculty in 6206 by taking over the entire suite. The move would also provide space for a computer lab.

A 6 station lab is needed for electronic portfolio system.
- The planned conversion of the current fitness rooms into department classrooms should provide space for smaller activity classes (health and CPR) and free the gym to be used for intramurals, etc.
- F/T faculty- Joseph Bauth, L113; David Bochynski, 5214; Nancy Hargrave, 5213; Perry Jenkins, L107; Kristine Rave, 6206c; Carol Reis, 6206c& A107; Santo Rizzo, 6206d; Pamela Simmeth, A107.
- P/T faculty- Mary Altair, James Battin, Matthew Davis, Roy Decibus, Ken Duke, Kathy Gorham, Thomas Kulczyk, Cody Pokigo, Pamela Rost, and Renee Szarowicz; 6206d. Gregory Bean 6062d & L107; Chelsea Breidenstein, Santo Desain, Brian Glaser, Andrew Gonzalez, Joseph Manott, Steve Mullen, Matt Wietlispach; L107. Natosha Cummings-Price, Jaclyn DiaPaul, Robert Malone, Paul Martin, Alex Nwora, Debbie Ruh, Phillip Ryan; A107. Timothy McQuade, Mark Tartaro, Michael Walsh, Gregory Waszak; A107 & L107.
- Full time clerical staff- Linda Gier, 6206a.

Emergency Management (A.A.S.)

City Campus

- The Emergency Management Program prepares students with the strategic managerial skills necessary to prevent, protect against, respond to, recover from, and mitigate the effects of any potential man-made or natural disaster and acts of terrorism.
- In 2005 the program started with 4 students and now enrolls 50. Although overall enrollment is increasing, enrollment at City is decreasing while enrollment at South is increasing.
- Courses are offered at both South and City Campus; South Campus session 5B and City Campus session FB.
- In partnership with the Buffalo Fire Department ECC piloted the program as a hybrid associate degree.
- An online Emergency Management program has been approved by both SUNY and SED. There are 25 non-matriculated students in the pipeline. Currently the two programs online have increased enrollment.
- The Emergency Management program has been recognized nationally by Homeland Security, FEMA as an accredited AAS program.
- An expansion of the partnership between ECC and the Buffalo Fire Department is expected to create a Center of Excellence for Emergency Responders and Managers. The Center will offer training and education based on the needs of government agencies, non-profit organizations and private sector businesses. Erie County has a fire training facility already, but there is a need to reach the underserved also, this is seen as Economic Development by the Governor and the Mayor.
- Space and equipment needs have not been determined. Course and program development will occur based on the MOU previously developed between ECC and the Buffalo Fire Department.
- The hub for the EM program is the City Campus.
- Seated EM courses are offered at the South Campus and online.
- An office is maintained at the City Campus that supports both the EM and FPT degree programs.

- There are plans to offer EM and FPM courses at North Campus sometime in the future after the plan has been presented to the advisory board for consideration.
- Finding space to hold evening (5:00 PM) department (EM & FPM) meetings is difficult. A recommendation on how to alleviate this need is appreciated.
- Issues are helpfully resolved by registrar at South Campus.
- F/T: Rosa Gonzalez, Chair- Emergency Management and Fire Protection Technology.
- P/T: at South and City. Charles Brown EM & FPT, Rod Cameron FPT, Ralph Estep EM & FPT, Kevin Hodgson FPT, Ronald Kenyon FPT, Michael Murphy EM, Donald Schueckler FPT.
- Support Staff- South and City Campus. Janice Sagun, Senior Clerk Typist- shared with 3 other programs, South Campus. Thomas Chmielowiec, Support Specialist, Recruitment, South Campus. Joyce Munn, F/T Senior Clerk Typist, Dr. Barnes's Assistant, EM & FPT, City.
- Office numbers were not provided.
- The combined program, EM-FPM, requests a P/T person to teach some EM/PFT courses and support the daily operation of the department. The request was identified in the recent Program Review for FPT.

Fire Protection Technology (A.A.S.)

South Campus

- The Fire Protection Technology Program courses and the general studies courses combine to prepare the firefighter, fire officer and fire investigator for the challenges of modern day firefighting. Graduates of this curriculum are qualified to accept leadership positions as fire officers, chiefs, marshals, arson investigators and safety officers in both the public and private sectors.
- About 30 students are enrolled in the program. Most are firefighters or high school graduates.
- The hub for the FPT program is the South Campus.
- FPT courses are not offered at the City Campus.
- An office is maintained at the South Campus to support both the EM and FPT degree programs.
- There are plans to offer EM and FPT courses at North Campus sometime in the future after the plan has been presented to the advisory board for consideration.
- Faculty and staff listed above in EM for both programs South and City Campus.

Paralegal (A.A.S.)

City Campus

- The objective of the Paralegal Program is to train students to assume responsible positions in law firms and in other institutions where knowledge of the law is essential. Armed with a broad knowledge of the law and business structures, graduates will be able to work effectively as paralegals under the supervision of an attorney.

- Joint Admissions Agreement is in place with SUNY at Buffalo (U.B.). A student who graduates with an A.A.S. in Paralegal Studies from ECC will be allowed to transfer their credits with full junior status into the U.B. Legal Studies Program.
- 40% of students go onto UB Law.
- Current enrollment is 165 students. Plans are for student enrollment to average 150-175 over the coming years.
- The program has adequate space for now in 45 Oak building, but needs a private conference room in their office area location for faculty to meet with students. The private space is required to meet and maintain accreditation with the American Association for Paralegal Education. Also this space would provide a private meeting area to discuss issues of a personal nature.
- No dedicated space, but primarily use LH 120 and share 130 and 132 with CJ.
- There seems also to be a need for more scheduled classes in the computer lab, room 114.
- Computer lab access is limited due to high demand for computer room 114 (max capacity 30).
- Faculty would like to hold PA230- Paralegal Seminar in computer room 114 so students can access the computers/Westlaw during class time.
- The roof leaks at 45 Oak Street; maintenance is required.
- A new course that has been proposed, Law Office Management, will require computer access, a scanner/copier, a work station for staging documents, and a flat top surface/counter. Room 114 could be modified to meet the needs.
- An agreement of Academic Cooperation between ECC and the National University of Kaohsiung of Tiawan may result in additional international students (possibly 5-10). The increase would not have a significant impact on space requirements.
- The Paralegal program is based at City Campus, but courses are also taught at North and South Campus. An office or shared office space at North and/or South Campus would allow for faculty to meet with students and make copies.
- Two or 3 classes are held/semester at both South and North Campus. Space for classes is needed; they run from 10 to a maximum of 25 students.
- F/T faculty: Joseph G. Krenitsky, Dept. Chair; Richard Collins; Willard Flynt- all located in room 113.
- F/T Support Staff- Cynthia Dyll, Senior Clerk Stenographer for Paralegal, CJ and Radiation Technology. Room 113.
- P/T faculty: Joseph Hausbeck, Judge Louis, Louis Maino, Philip Leone- use room 113 to prep for class and copy materials.
- It is anticipated that 1-2 new part-time faculty will be needed over the next 5 years.

Science Programs

October 18; 1:00- 2:00 PM

Ed Holmes, AVP Academic Affairs

Marcia Gellin, AAD for Liberal Arts
Carol Mack, Biology, North Campus
Keith Scully, Biology, North Campus
Mary Anne Cattieu, Biology, North Campus
Murray Weinstein, Biology Chair, City Campus
Beverly A. Roe, Biology Chair, South Campus
Michael Sorrentino, Chemistry Chair, City Campus
Steven Zawacki, Chair Chemistry, North Campus
John Danna, Chair Physics/Environmental Technology/ Geoscience North Campus
Sushil Patel, Chair Physics/Engineering Science North Campus
Jean Stark, JMZ
Patricia Pietropaolo, JMZ

General Comments

North Campus

- In general ECC needs updated and clean facilities to compete with area colleges.
- An auditorium is needed and a conference room.
- Students need a common area with a small food court.
- Updated restrooms with automatically flushing toilets are requested.
- More staff should be hired for housekeeping and maintenance.

Biology

- Biology is a service department providing required courses for ECC programs including health related programs and degree programs designed for transfer to 4-year degree programs.
- Departments serviced by the Biology department are: Nursing, Dental Hygiene, Occupational Therapy, Medical Office Assistant, Medical Office Practice, Respiratory Care, Dental Assisting, Health Information Technology, Radiologic Technology, EMT: Paramedics, Emergency Medical Services Provider, Physical Education.

North Campus

- Ninety-six sections of biology courses are offered in fall 2012 servicing 2200 students.
- There are not enough sections of Anatomy and Physiology and Microbiology to accommodate all of the students wishing to take the courses.
- The shortage of course sections is due to the number of lecture and lab rooms.
- There are 3 lecture rooms and 2 lab rooms.
- Concern is stated that students are going to Niagara County Community College because biology courses are not available at North Campus at times students want to take them.
- Space needs to accommodate the sections needed to service Allied Health programs include:
  - Two additional lab rooms- making a total of 4.
  - One additional preparation room, preferably between the 2 labs.

  - Four additional smart teaching/lecture rooms- making a total of 7 lecture rooms.
  - Additional office and storage space.
  - Biology Skills Center/Tutor room. Students at both South and City Campus have a similar facility. Provides area where students review anatomical models, have computer access for A&P and Microbiology skill development, and availability of microscopes for practice. All activities target skill development and remediation leading to increased retention.
- Student enrollment in biology courses- A&P I&II, Microbiology, and Survey of A&P would increase if more sections were available.
- Presently there are no academic programs planned in collaboration with other ECC campuses.
- Locating Biology close to Allied Health encourages collaboration that supports student success.
- Additional desks, cabinets and storage space are needed for the 23 adjuncts.
- Storage space is needed for lab equipment and supplies.
- A cadaver lab is requested. (Ed is not in favor.)
- Biology North Campus employs 9 F/T faculty, 23 adjunct faculty, 1Master Technical Assistant, and 1 Senior Clerk Typist.
- F/T faculty: Chandra Basu, K257; Lisa Bonaventura, Chair, K254; Mary Anne Cattieu, K253; Josephine Degnan, K253; Thomas Franco, K253; Jana Frustaci, K253; Debra Jenkins, K149; Carol Mack, K257, Keith Skully, K253.
- P/T faculty: 23 P/T faculty. 7 are located in K253; 6 are in K257; 8 are in K258; 1 is in K210; and 1 in B111.
- Diane Gardner, Master Technical Assistant is in K258.
- Jeanette Szczepanski, Senior Clerk Typist is in K253.
- Increasing the number of lecture/lab sections would necessitate the hiring of additional adjunct faculty and an additional lab assistant.

South Campus

- About 50% of the students taking biology courses at South Campus are from North Campus when they cannot get a course at North.
- South does not have computerized scheduling.
- They lecture in the 4 labs they have (compared to 2 labs at North).
- They are in need of lecture space.
- Lectures hold 32 students. That has to be tight in a lab room.
- F/T faculty: Thamby Ninan, Beverly Roe, Yolanda Lugo, Rozanne Redlinski, Don Gill. No office room numbers provided.
- There are 16 P/T faculty, one teaches entirely online. No office room numbers provided.

City Campus

- Currently they are running 55 sections of biology.
- Could increase enrollment by 20-30% if he had more space, but none was requested during interview.
- Middle College (290 Main Street) is taking up lab and lecture space that would accommodate 6 biology sections per semester. (Potential for eliminating Middle School due to cost?)

- Office space is needed- three would be sufficient.
- No information on office space was provided.

Chemistry

- The chemistry division provides courses that support degree programs including: Environmental Science, Allied Health and Forensics.

North

- There is a general need for open computer labs for science students.
- Students do not have access to labs for out-of-class work.
- Labs are outdated (built in the 50's) except for Organic Chemistry lab.
- Exhaust hoods are barely adequate. Ventilation should be upgraded.
- Semi-control of 2 classrooms but when a class is cancelled due to low enrollment the room is not available for scheduling the next semester- "squatter's rights" prevails.
- Lecture rooms should be upgraded to smart rooms.
- Space to tutor students is needed as is office space for P/T faculty.
- Storage space is needed.
- Police Science now has lecture hall that had been used by Chemistry.
- Office space is adequate except for HVAC.
- F/T faculty: T. Rotlarz (?), P. Devis Sanchez, S. Zawacki, S. Rudolfino (?). Faculty office space is B700 B&C and B703 C&B.
- P/T faculty: there are 7 to 8.
- F/T Chemistry/Physics department secretary: T. Fiarello, located in B700.
- P/T Technician: U. Rizu.

City Campus

- Chemistry Department FTE's are between 68 and 73. There is no expectation of change.
- Middle College is using lab space Tuesday and Thursday mornings.
- Chemistry storage should be closer to the labs and classrooms. Currently storage is not on the same floor as labs.
- The prep room becomes a default storage area for frequently used chemicals and equipment. The clutter and accumulation of chemicals may lead to safety issues.
- Carts are used for lab prep.
- The 2 lab rooms are designed for 16 stations/students but are also used for lectures that have up to 32 students. Problems are created for seating the extra students and violation of fire codes. Egress is sometimes impeded by the extra desks brought into the room to accommodate the larger number of students in lecture sections.
- There has been a continuing problem of water infiltration into walls leading to paint peeling off the walls and release of plaster dust. The 10-year problem may have been resolved recently.
- It is hoped that Organic Chemistry, which had been taught at North in the past, will be restored. The cost for upgrading a lab and purchasing equipment is estimated at $100,000.
- Offering Analytical Chemistry is a second priority which may become a requirement as the Environmental Science Program grows.
- 50% of classes are taught by P/T faculty who do not have designated

office space. They use the chemistry lab (430) between scheduled classes/labs, but the time that the room is open is very limited. Office space is requested for the 4 P/T faculty.
- Chemistry has 2 labs/prep room and one faculty office.
- F/T faculty: Michael Sorrentino, 438.
- P/T faculty: Robert Ahrens, chem lab 430; Larry Beanan, chem lab 430; Ramanathan Gopal, chem lab 430; Rebecca Stadler, chem lab 430.
- F/T Master Technical Assistant- shared with Biology and Physics, Robert Maslanka 344.
- F/T Senior Clerk Steno, Carolyn Passman, 344.
- P/T Tutor- shared with North Campus, Edward Chieza, Library- North.

Physics North
Environmental Science (A.S.)

North
- Through laboratory-oriented, multi-disciplinary coursework, students will gain a broad and integrated knowledge base of the basic sciences as well as knowledge of issues focusing on environmental integrity, sustainable resources, and ecological problems.

Environmental Technology Geoscience (A.A.S.)

North
- The program consists of lecture and laboratory courses which form the basis for students to learn about energy systems and environmental conservation.

Comments (relating to all three programs)
- All three programs have seen a steady increase in enrollment over the past three years. The department anticipates continued growth to accommodate the programs they service and increased enrollment in Environmental Science and Environmental Technology Geoscience programs.
- Physics courses are service courses for the Engineering Science program and for the Liberal Arts: Science A.S. program.
- Lecture courses have a 2 hour lab component except for Physics courses in the Engineering Science program where laboratory experiences are 3 hours.
- Classes run day and evening.
- 4 classrooms are used for lecture and are willingly shared.
- The 4 labs are limited to 16 students.
- The existing labs may not be sufficient if enrollment is significantly higher.
- With current enrollment, laboratory use is appropriate.
- The programs are always in need of state-of-the-art equipment.
- The wiring has not been completed in 2 new smart classrooms.
- There are 5- F/T faculty.
- There are 9 P/T faculty.
- One P/T secretary supports the department at 20 hours/week.

Engineering Science (A.S.)

North Campus

- This 2-year Engineering Science Program is designed to qualify students for transfer to a four-year engineering program.
- The current enrollment of 190 full- and part-time students is not expected to change. No new sections or courses are planned.
- No additional space usage or need is anticipated.
- There are no scheduling conflicts with shared lab space. Five sections of ES drafting are taught in the Civil Engineering Technology drafting lab. Five sections of AutoCAD are taught in the computer labs.
- P/T faculty need offices.
- Open labs are needed for students.
- F/T faculty: Sushil Patel, Chair, B700C.
- P/T faculty: Irvine Reining; Richard Deigelman; Manual Rivers; Ralph Geshwill. No assigned office space.

Erie Community College
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Police Science

November 13, 8:00- 9:00 AM

Ed Holmes, AVP Academic Affairs
Edward Hempling, Department Chair and Director, ECC Law Enforcement Academy, North Campus
Tomasina Cook, Chair City Campus
Michael Kozlowski, Chair North Campus
James Lalime, Chair South Campus
Kenneth J. Barnes, Sr., Assistant Academic Dean II for Business & Public Service
Jean Stark, JMZ
Patricia Pietropaolo, JMZ

Police Basic Training, Certificate (Police Academy) North Campus

The pre-employment Police Basic Training Certificate Program provides students with the opportunity to complete many aspects of basic police training before being appointed as a police officer in New York.

The Police Basic Training Certificate Program is designed to equip students with the knowledge of criminal law, physical fitness, emergency vehicle operation, first aid, and a number of other relevant subjects. This program requires 30 credit hours prior to enrollment. This 30-hour requirement is waived for veterans. Upon successful completion of the program, students will receive another 30 credit hours and will be eligible for hiring.

The Academy is full-time, Monday through Friday from 7am to 4pm, for 17 (20) weeks.

Space

- Approximately 6,500 square foot currently.
- Storage is needed – secure space to store lots of equipment.
- Priority is for dedicated classroom space for police training, including gym space for tactical training and physical testing.
- For 15 weeks for each session (2 per year) dedicated gym and fitness space is needed. Could use 1/2 a gym with fully equipped weight room (50% larger than what they have now).
- Sharing space is challenging for the Police Academy due to differences in culture and scheduling.
- Firing range is requested. Firearms' training currently is off-site. Range is required for 16 weeks for Police Academy, but could be rented out to others for in-service training for police officers.
- A separate wing with contiguous space for Police Academy, EMS and Criminal Justice would be ideal and allow for maximum opportunities for sharing resources.

Police Academy Program

- Currently there are 65 students in Police Academy.
- 20 students pay tuition; 45 do not, but ECC is eligible for FTE aid.
- Two 20 – week sessions/year.
- County supports Police Academy philosophy but not financially. MOU between ECC and County for $200,000/yr. is not being honored by County.
- Local police departments loan the Academy instructors for specialty topics.
- Would like to be a regional training center.
- Potential for training peace officers and correction officers.
- Would like to develop certificate programs; on-going training programs, i.e. Loss Prevention Certificate, Leadership Training.

Reported Space Needs

- Smart classrooms.
- Large room for Firearms Unit and Driving Simulator
- Storage space, about 1,200 square feet.
- Indoor Firing Range (10 positions). Estimated space need of 6,700 square feet.
- Defensive Tactics Room (1/2 gym space, approximately 2,000 square feet).
- Therefore, require around 13,000 additional square feet of space. Currently have approximately 8,000 square feet. Total need is approximately 21,000 square feet, according to Director.

Staff

- 1 F/T administrative assistant; 3 F/T faculty (includes Director).
- 1 P/T receptionist, 6 P/T instructors.

New Programs

- ECC wants to be a full-service provider.
- Want to move Security Guard training to a certificate.
- Collaborating on curriculum for Correction Officer training program (200 classroom hours/9-12 credit hours) with Monroe Community College.
- Have started a Peace Officer training program.
- Ed is focusing on leadership training.

Criminal Justice – miscellaneous discussion

- 900-1000 students enrolled in Criminal Justice program.
- Maximum number of jobs available/year is 150.
- What can be done in the CJ arena to provide jobs for graduates?
- Criminal Justice programs are on three campuses.
- South is the most recent program. It was established to compete with the program at Hilbert College.
- Could each campus support a CJ program with a different focus?
- Crime Scene Investigation could occur only at North (which would eliminate program at City).

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Workforce Development

November 13, 9:25- 10:00 AM

Carrie Kahn, City Campus 716-622-9817 (cell)
Jean Stark, JMZ
Patricia Pietropaolo, JMZ

Programs
- Non-credit professional development training.
- Courses run on break even basis; profit center.
- Courses are tied to demand professions.
- One-Stop Center is moving to North Campus.

Space Needs: Workforce Development - Advanced Manufacturing $900,000 grant
- ECC's focus is on CNC training. Nate's program is basis for training.
- The Advanced Manufacturing grant will double required laboratory space needs classroom space for 34 students.
- Office space needed for program mentor, program director and assistant director.
- Carrie will need an office at North Campus.

Personnel
- 31 full and part-time staff
- 6 F/T plus Carrie ----------at 45 Oak/ Community Education
- 5 P/T and 1 student ---------- at 45 Oak/ Community Education
- Driving: 5 F/T & 2 P/T-------South Campus
- One-Stop Center: 11 F/T & 17 partners (partners are not all there at one time- share space) ---North Campus
- Corporate Training: 2 F/T & 3 P/T-------- at 45 Oak
- Will need for grant: 3 F/T (new) staff will require office space and an office for Carrie----at North Campus (as mentioned above in space needs).

Outreach to Community
- ECC works with two divisions of Department of Labor: WIB for programs with Heather and WDC with Lavon Stephens for funding.
- ECC has a good relationship with WIB- Carrie said she gets all her grants through them.
- Focus on workforce development is in demand occupations.
- Efforts to train Buffalo workforce are "not at all coordinated."

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SES Staff

November 13, 10:00- 11:00 AM

Jeffery Bagel, Executive Director ECC Foundation
Jack Foley, Assistant to the President
Ed Holmes, AVP Liberal Arts & Sciences
Marsha Jackson, AVP Student Affairs
Jack McDonnell, AVP Safety & Security
Bill Reuter, Chair Administration & Finance Offices
Fred Rogers, AVP Institutional Research, Assessment, Accreditation & Planning
Joe Stewart, AVP Information Technology
Richard Washousky, EVP Academic Affairs
PJ Wiles, AVP Health Sciences
Darley Willis, Director of Equity & Diversity
John R. Ford, Assistant Director of Human Resources
Mary Beth Orrange, Faculty Chair – Middle States IPA
Kristin Klein Wheaton, EVP for Legal Affairs

Challenges

- Perception that security/safety is a concern at City Campus; stereotype – not actuality. Security concerns keep suburban residents from taking courses at City. A large number of students who live in the City go to the North Campus.
- Parking at City is an issue.
- Political pressure to have a presence in City.
- Paralegal and Baking offered at City exclusively- cannot determine if programs would grow if moved to North or South Campus.
- ESL is needed at City Campus.
- Past conversations about consolidation/theming of campuses; Police/Fire/EMT students are not afraid to take courses downtown.
- Creating a one-college feeling at all three campuses is a challenge. Chairs are faculty and could return to F/T teaching if there was not a chair at each campus for the same department.
- Student Services are at 45 Oak, but not convenient for City Campus students. A one-stop philosophy and configuration is needed at all campuses. (More of a customer service focus.)

Programs

- College has 45+ degree programs and 25+ certificate programs. Are all needed?
- Energy and utilities are a growing market for ECC. Partnership with NYPA and National Grid.
- Technology programs are growing.

- Building management and maintenance is a strong program for City. All new Labs, but HVAC & R needs more space.
- The Police Academy breaks about even. Would like to add 30-40 additional pre-employment positions to improve cash flow.
- ESL is needed for immigrant population. GED courses needed at City.
- Biology laboratories are needed, but funding beyond Perkins is needed for renovations and construction.
- Verizon program is being phased out.

Space

- Skills are learned out of classrooms- space is needed for social interactions and development of basic skills.
- Would like to add 30+ pre-employment students to Police Academy (double tuition and FTE's so program becomes more cost effective). No space available and a lack of faculty.
- Move non-program specific computer labs to information commons/ library.

Erie Community College

Academic Programming Interview Summaries

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Academic Administration

November 13, 2012 11:00 AM- 12:00 PM

Richard Washousky, EVP Academic Affairs
P.J. Wiles, AVP Health Sciences
Ed Holmes, AVP Liberal Arts & Sciences
Jean Stark, JMZ
Patricia Pietropaolo, JMZ

General Comments

- Board of Trustees (BOT) is interested in taking advantage of high growth occupations and consolidation for better efficiency.
- BOT is convinced 'growth'/new building should be on North Campus.
- Having department chairs for each campus (contractually required) is "killing" the College's finances. (If number of chairs were reduced, the chairs could go back to full time teaching.) Chairs do not always agree, creating an impediment to the One-College concept. (Union will be at BOT meeting but it is OK to mention.) We are doing an okay job at three sites; could do an excellent job at one site.
- Nursing should have one Department Chair. No problem as the position is classified as administrative.
- BOT is looking for 'regional concepts.'
- Need classrooms to accommodate 32-34 students.

Programs

- Create Centers of Excellence in Health Sciences and Hospitality (Culinary Arts). High cost areas. Health Sciences does not need to be in 'Medical Corridor.'
- Program downsizing is a possibility.
- Ground was lost on IT; potential for improvement and enrollment growth (faculty leadership is the issue), but program should be consolidated at North Campus.
- Move Dental Laboratory Technician to North if there is space. Consolidate there with Dental Hygiene and Dental Assisting.
- Consolidate Homeland Security and Crime Scene Investigation, and locate both at North Campus.
- Nursing – do not change. Keep both North and City Campus programs.
- What belongs at City Campus?
  - Paralegal
  - Nursing
  - Mental Health
  - Radiologic Technology
  - Emergency Management
- Create identity for City Campus.
  - Workforce Development (Readiness)
  - General Education- for returning adults.
- Programs to grow:
  - Technologies
  - Biomanufacturing
  - Engineering
  - Environmental Sciences/ Environmental Technology Geoscience
  - Transfer programs
  - Industrial Technology/Manufacturing
- Potential new programs:
  - Welding

Mechatronics
  - Sleep Medicine
  - Advanced Manufacturing

Erie Community College
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Library
November 13, 2012 1:00 - 2:00 PM
Kathleen McGriff-Powers, Department Chair and Principle College Librarian, City Campus
Jane E. Ashwill, Department Chair and Principal Systems College Librarian, North Campus
Melissa E. Peterson, College Librarian, South Campus
Joe Riggie, Systems Librarian
Ed Holmes, AVP Liberal Arts and Sciences
Jean Stark, JMZ
Patricia Pietropaolo, JMZ

In general, there is no distributed study space (outside of Library) on any of the campuses.

North Campus
- Positive changes include: open computer lab now in library; servicing 25% more students; more tutors available in Biology/Env. Science, Math Lab, and English Skills Center. Lap top computers are available for 2-hour use.
- 150 computers in Library. 30 laptops; all well utilized so sometimes students have trouble finding a computer to use.
- Group study spaces are available (10-12 rooms).
- A collaborative study area for 12 students is being developed. Not a real 'quiet' area.
- Want to create a collaborative teaching area.
- Would like a dedicated tutoring center. Now tables are reserved for tutors.
- Hours have been extended: M-Th 7:30 – 10; F 7:30 -4; Sat. 9-3.
- Facilities – small study rooms need to be insulated against noise.
- There is no elevator to the second floor.

South Campus
- There is sufficient space in the Library building but it is configured poorly. Could do more if building was reorganized and renovated.
- Student use of Library is up even though enrollment is down. Plan to extend Library hours and move fully integrated computer lab with Library.
- There is a classroom for library instruction that seats 32.
- Poor acoustics throughout Library is a problem.
- The open computer lab has 30 computer stations.
- The 'Poet's Corner' upstairs is used for instruction. Would like an additional classroom.
- Library has 35 computers, 34 in computer lab, 30 lap tops and 10 i-pads.

- No tutoring is available.
- Students go upstairs seeking a quieter area.
- One (and only) quiet study room is downstairs behind the reference desk. It is difficult to locate and cold.
- CTLA- teaching/learning center encourages faculty and student interaction.
- IT is also in library.
- Environment is cold –no quiet spaces for students to meet.
- Space/facilities:
  - Renovations could add tutor centers (English/Math skills lab.).
  - Doors are heavy/handicapped students require assistance.
  - Freight elevator only access to 2nd floor.
  - Room for computer 'help' staff is small.
  - Need additional electric outlets and power.
  - Temperature control is poor.
  - There are no group study spaces in the Library.
  - 5 F/T staff; 8 P/T staff.

City Campus

- Top priority is more space.
- Second priority is quiet study/collaborative space. There are no group study rooms.
- Would also like a deep quiet zone.
- There are 20 computers in instruction classroom; 16 computers upstairs; and 24 lap tops.
- The Library is always busy and often crowded.
- Information Literacy is something that needs to be additional.
- Possible back work room would be converted into a classroom.
- Possibility for a 42-seat open computer lab to come to library if 1st floor Security Office and Middle College are moved out.
- CJ, Math, and Social Science tutors are in open library space.

Systems Librarian

- Libraries are transitioning to electronic acquisitions.
- All should move toward "integrated commons."
- Thinking about teaching information literacy.
- Space/facilities:
  - Removal of shelves will provide more floor space at both North and South Campus.
  - Fixtures need to be updated at North and South Campus.
  - In the future – space and equipment to create student presentations; sound/video editing.

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Security
November 13, 2012 2:00 - 3:00 PM
Jack McDonnell, Associate Vice President, City Campus (Retired FBI)
Jean Stark, JMZ
Patricia Pietropaolo, JMZ

General Information
- Oversees 3-campuses; not involved with student discipline.
- Direct report to President Quinn.
- Each campus has an office/City has 2 offices.
- Staff are campus public safety officers.
  - 85 employees; 25 F/T. He has enough people.
  - 40 are retired police officers; one is an administrative assistant.
  - Many educated via Police Academy at ECC. Pre-employment students; ECC pays tuition and OK's firearms.
- Camera surveillance systems are functional but he does not have money for maintenance. Staff had not been trained to operate the system but that is getting better.
- 98%-99% of classroom phones are functional.
- Scheduling of outside facilities is done by multiple people; a facilities manager is needed to deal with maintenance issues to prevent double booking, etc.
- Cities now issue parking tickets. ECC is working toward issuing tickets.
- If a new building is constructed, parking is needed.
- Need crisis counselors on staff.
- Criminal Justice Program: Students need to transfer to a 4-year program because they will not get a job with a 2-year degree.

City Campus
- Parking is available to students but not faculty.
- Escorts available to walk students too parking area anytime day or night.
- City Campus is not designed to be secure; as a public building it is not locked.
- Street gangs are an issue in the City of Buffalo; he has identified some within the college community.
- Swipe card access is recommended.
- Working with faculty to change stereotype of 'former' security officers who were not effective.

North Campus
- No way to enforce parking restrictions at North, but hopes to start a plan for it soon.
- Could use more parking at North.

South Campus

- Could use a little more parking at South.

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Social Sciences & Humanities

November 13, 2012 4:00 - 5:00 PM

Robert Caputi, Chair Social Science, North Campus
Katherine Ellis-Donner, Chair Social Science, City Campus
Fabio Escobar, Chair Humanities, City Campus
Donna Fierle, Chair Humanities, South Campus
Ray Barker, Chair Social Science, South Campus
Paul Stencel, Chair Humanities, North Campus
Mary Beard, Assistant Academic Dean for Liberal Arts
Jean Stark, JMZ
Patricia Pietropaolo, JMZ

Humanities

South Campus

- Project a relatively stable enrollment.
- Space considerations
  - If request for F/T language instructor is filled they will need access to a language lab all day; Humanities Mac lab will not accommodate the new demand.
  - Art studio, Mac lab, photography lab, and one classroom are used close to capacity.
  - Space needs- OK, but music is taught in Auditorium and storage is also located there.
- Staff/office space (Building 2)
  - 3 F/T; Donna Fierle, 2220C; Joseph Mahoney, 2220A; Charles Roth 2220A.
  - 15 P/T; Mary Bress, Secretary 2220; Todd Bindig, 2220; Joel Brenden, 2220; Pei Lun Chang, 2220; Patricia Hall, 2220; Nancy Hargrave, 2220; Diane Hamitz, 2220; Hannah Jhun, 2220; Christine Jusiak, 2220C; Sheila McCarthy, 2220; Nathan Naetzker, 2220; Evy Salvato Rood, 2220; Alison Slein, 2220; Kurt Treeby, 2220; Joseph Yonder, 2220.
- Request additional FT faculty in languages and music so programs can grow.

North Campus

- Degree requirements are being redesigned to mesh with the SUNY General Education Competencies. The change may lead to an increase in enrollment.
- Space considerations
  - Mac lab (K255) is overused; new lab is needed for computer art and

digital photography.
- Music classes are not in appropriate rooms. Shared space in K100 competes with nursing classes on Tuesdays and Thursdays. K100 should continue to be used for music classes.
- Currently evening music courses are held in a computer lab in the "B" building. The space is not appropriate for the classes.
- Currently music instruments are stored in auditorium and mailroom.
- The O'Connell Theater Company, a community theater group, is using space in the "G' building auditorium, so drama and music courses cannot be taught there. If their lease is not renewed, the auditorium could be dedicated to the Humanities Department and no other space would be required for music or drama.
- Drama classes are held in B-207, which is a lecture hall. It is not an appropriate space for these classes. The auditorium would work better.
- Humanities faculty offices are scattered. A centralized location for Humanities Department offices and classroom space would encourage efficiency.
- Classrooms dedicated to languages (Spanish, French and Sign Language) are needed.
- There is no space to run dance classes.

• Staff/office space
- 6 F/T; Paul Stencel, K122A; James McNabb, K154; Sue Dye, K150; Michelle Michael-Lippens, D108; Brian Porter, S123; Kathleen Vollmer, K109.
- 12 P/T; Sandra Bartz, Kurt Treeby, Marcia Washousky, Marie-Claire Bozant, James Runfola, Carmen Aquila, Bernard Olszewski, Andrea Escobar, Zenal Ntiranybagira, Linda Jenkins, Aimee bell, Amy Crockford, no office space indicated.
- F/T Secretary: Sue Gilbreth, K122.

City Campus

• Space considerations
- There is not a Mac lab at City. Art needs a dedicated digital lab.
- Art has a dedicated lab 2 days a week.
- Some classes are in smart classrooms.
- Sometimes the course cap has to be lowered because of room size; i.e. Room 570 fits only 25. 552 is a "prized" room.
- Need a room with dual projectors for art classes.
- Need adjunct faculty office space.
- Scheduling of hybrid courses unnecessarily limits room use on Fridays. (Rooms are vacant.)

• Staff/office space
- 4 F/T faculty in Post 537 and 375.
- Staff office space; Post 403.
- Room 4101 is used for mail, records, etc.
- 5 P/T Art faculty; Art 304A. 7 P/T faculty 'float' and do not have office hours.

Social Science

South Campus

- Windows are nailed shut. Ventilation is very poor.
- Enrollment is expected to remain strong; courses are required for other programs, needed to satisfy SUNY Gen Ed Requirements and are popular for transfer.
- Scheduling is done in a big book by hand. Have to be quick to grab a room when it becomes available.
- Space considerations
  - More sections of 100 level courses could be offered if space and faculty were available.
  - Adjunct faculty office space is needed.
  - Need more smart classrooms; technology installation is not complete in some classrooms. Smart Carts are used now.
  - Maximum capacity in rooms assigned at key times.
  - Assigned rooms: 4122, 4125, 4213, 4204, 3214; these rooms are used all day long. Building 5 lecture halls 5101 or 5102 when available, and additional rooms in Buildings 3 and 4 when other departments are not using them.
  - Prefer classrooms to have lecture style format with desks.
  - Important to keep black boards for traditional "chalk and talk" professors. They do not want white boards added to Social Science rooms.
  - Need classroom space at the times students want to take courses.
  - Better teleconference/video conferencing capacity is desired.
  - New office space should accommodate storage space.
- Staff/office space
  - 7 F/T: Mary Altair, 4101E; Ray Barker, 4104B; Trish Glose, 4104D; Justyne Harris, 4104C; Bill Lorenz, 4104D,Marianne Partee, 4115A; Jason Steinitz, 4102D.
  - 1 P/T Secretary: Connie McCulloch, 4101.
  - 21 P/T faculty: Sharing 4104A&E, 4106D and 4108C.
  - If number of adjuncts is increased, more office space will be required.

North Campus

- One of top money makers for the college.
- HVAC control is an issue (hot in summer).
- Space considerations
  - Tendency to overfill rooms making student space too tight.
  - Request an office for adjunct faculty.
  - Need smart classrooms.
- Staff/office space
  - 11 F/T faculty in K109 (includes a sign language instructor).
  - 2 F/T faculty and secretary in K112.
  - 12 P/T faculty – no space identified.

City Campus

- Cannot schedule classes in 45 Oak.
- Space considerations
  - Need a place to meet with students that has computers available.

- Teachers need access to classrooms to prep for classes.
- Childhood Education needs access to more classrooms.
- Work is being done on three smart classrooms.
- Classrooms are shared with other programs.

- Staff/office space
  - 10 F/T faculty.
  - 25 P/T faculty.
  - 6 offices in total. 2 P/T faculty are in a closet.
  - Administrative assistant is in 1 office with 1 F/T faculty, which is also used by adjunct faculty.
  - Lost an office to the Veteran's office.

Erie Community College

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ECC Foundation

November 13, 2012 3:00 - 4:00 PM
Jeff Bagel, Executive Director ECC Foundation

General Information

- ECC has never conducted a capital campaign; therefore, there is no real relationship with the community.
- Goal is to create a "culture of giving" and making the Foundation relevant.
- Community people feel good about the College.
- Building ECC will impact the economic development of the area.
- Fundraising issue because people think the County pays all of the College's bills.
- Offices at City Campus; Rooms 110 & 112.
- 3 F/T staff (includes Alumni Affairs).
- The area around the North Campus is a mini Health Services Corridor.

Issues

- Cultural differences between campuses should be considered when deciding on program locations.
- It is difficult for some students who live in the City of Buffalo to get to North.
- Take care in wording when dealing with students so that they are not discouraged, i.e. do not say they are in the wrong place – direct them to where the service is located.
- Alumni Center is located at City Campus.
- Perception of North Campus is that it is outdated; trapped in the 70s; looks like a high school. The infrastructure needs improvements.
- Wants 'tools' to help raise funds; tangible, sexy, match donor base (manufacturing).
- Advance manufacturing jobs are available, but employers say they cannot find skilled workers to fill the jobs.
- Needs to be able to tell donors how the donation will benefit them.

Erie Community College

Academic Programming Interview Summaries
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Nursing

November 14, 2012 8:00 - 9:00 PM
Patricia Losito, Chair, North Campus
Lauren Watkins, Administrative Assistant
P.J. Wiles, AVP Health Sciences
Tom, Biology
Jean Stark, JMZ
Patricia Pietropaolo, JMZ

Nursing A.A.S.

Mainly North

General Information

- Growth is inhibited by limited space and faculty. Clinical practice is changing so more students can be accommodated.
  - Dedicated Education Units (DEUs) pair student with a mentor from the hospital at a 10 to 1 ratio.
  - If number of admits increases, the number of sections of service courses required will need to increase: Anatomy and Physiology, Microbiology, Math, English, Social Sciences.
- Employment opportunities in nursing and the health occupations in general are some of the fastest growing occupations according to the NYS Department of Labor.
- By 2020, 80% of nurses will need to have a BSN; Magnet status is being sought by numerous local health care facilities impacting the push for the BSN-educated nurse.
- Erie has articulation agreements with area colleges for students to earn a BSN (Daemen 1+2 (ECC) +1, Daemen 3 (ECC) +1, D'Youville 3+1).
- There are 10 students in the LPN to RN program.
- Nursing department is working toward programs/articulations for nurse practitioners and physician assistant programs.
- Nursing Associate degree (ADN) typically takes 3 years to complete at a community college.

Nursing is offered at North both day and evening and during the day at City. (Bill Reuter indicates Nursing will stay at City.) Admission at City is in January.

- North and City programs are popular and filled. 120 students are accepted each year, at North; 90 at City. About 75% of applicants being denied. At any given time there are close to 300 nursing students.
- Remodeling of the biology labs at North Campus has directly impacted student learning outcomes- as evidenced by improved course grades, reduced attrition, and increased retention.
- 50% of students taking Biology courses at South Campus are from the

North Campus. Additional Biology/Lab is needed at North.
- There are not enough Anatomy & Physiology seats to cover demand.
- Scheduling of nursing courses is done around Microbiology sections as Micro Lab is not scheduled by Nursing; it is not in nursing department. Nursing needs a dedicated Biology/Micro Lab.
- The Nursing programs at North and at City are separately registered programs.

Facilities

- Single Nursing Lab limits the time available for 2nd year students to practice nursing skills.
- Space is needed for physical assessment.
- Simulation facility is small and has no space for debriefing; collaboration possible with Respiratory and Dental programs.
- Storage space for manikins is needed.
- Tutoring space also contains student mailboxes and office space for 2 faculty. A dedicated tutoring room is needed.
- Need more access to smart classrooms.
- Need computer access for mandatory student testing, online educational tools/remediation, electronic medical records, and required entrance exam.
- A large lecture hall (64) would be used day and evening 2X week.
- A separate testing room is needed for the increasing number of students that require special attention; more time to take exams; exams are becoming more frequent – 6 per semester.
- Biology department supports ECC starting a cadaver lab to strengthen Nursing and other programs.
- At North Campus Nursing administration is currently located in the Kittinger (K) Building:
  - K218 & K210 – offices/secretary/reception area/file-copy area.
  - K220 – offices/tutor area/student mailboxes.
  - K261 – skills lab/office/small storage area.
  - K259 – small seminar room.
  - K100 – large lecture hall/smart classroom (not dedicated use).
- Bretschger (B) Building- North Campus- classrooms:
  - B207 – large lecture hall (not dedicated use/not a smart room).
  - B113, B202, B204, B300, B301, B308, B403.
- Gleasner (G) Building – North Campus:
  - G205 – Simulation room.
- Spring Student Center (S) Building – North Campus:
  - Disabled student services.

Faculty/Staff

North Campus

- Patricia Losito, Department Head, K218B
- 10 F/T Faculty: Cynthia Belele, K220A; Christine Bellari, K210D; Judith Bryant, K210B,Lisa Darone, K210F; Maryjane Laruffa, K210B; Annette Mineo-Brady, K220B; Marie Owens, K210C; Lynn Rudnicki, K220A,

Barbara Vickers, K210E; Louise Zielinski, K210C.
- 3 F/T Staff: Teresa Malkinski, Senior Clerk Typist, K218C; Beverly Maniccia, Senior Clerk Stenographer, K210; Deborah Rhu, Senior Technical Assistant, K261.
- 1 P/T Staff: Lauren Watkins, College Administrative Assistant, K218A.
- 4 P/T Faculty: Tina Blacha, K210; Rebecca Milczarski, K210; Pamela Riester, K210; Patricia Sorrentino, K210.

City Campus
- 1 F/T Coordinator of Nursing.
- 7 F/T faculty.
- 2 F/T staff.
- 1 P/T faculty.

Mental Health Assistant-Substance Abuse, A.S. Mental Health Assistant-Alcohol Counseling, A.S.
- Programs are taught at City in the evening.
- No full time faculty, only part time.
- Office space is needed.

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Workforce Development
November 14, 2012 11:00 -12:00 PM

Lavon Stephens, Administrative Director, Workforce Development Consortium, Inc.
Heather Okoro, Executive Director, Workforce Investment Board, Inc.

Overview
- The Workforce Investment Board (WIB) determines the policy for training. Funding comes from the Department of Labor to the state. The WIB oversees policy on workforce development and coordinates services through One-Stop Career Centers, implementing initiatives for potential workers and employers in one location.
- The Workforce Development Consortium (WDC) is the One Stop operator in Buffalo and Erie County. Through services provided by the Buffalo Employment & Training Center and the ECC One Stop Center, the WDC offers an array of options to job seekers looking for employment. The WIB also provides direct services to private sector businesses.

General Comments

- ECC may not be collaborating with WIB, i.e., WIB would like to be more of a partner in the Advanced Manufacturing grant; align strategic plans.
- WIB did not help write the grant, but will find individuals to be recipients.
- The One Stop Director reports to Carrie Kahn.
- One Stop clients take courses at ECC. WDC pays the ECC employees at the One Stop Center.
- Recognize that space at ECC is not readily available.
- The partnership between WIB and BOCES is not smooth either.
- WIB wants to support programs at ECC.
- Will work to make the programs accessible; transit authority bus schedules could be better matched to North Campus course times/ student schedules.
- WDC is a non-profit organization that serves as the fiscal agent for WIB.
- Funding from the federal government (DOL) passes to NYS to the WIB; $7 million.
- WIB administers the Erie County summer programs.
- WIB distributes Workforce Development funds via a formula.
- Erie County Employment Training Resource Guide lists programs and services provided; some services are duplicated.
- Retooling for employment is an "untapped market"; WIB can assist.
- WDC can pay for non-credit courses as well as credit courses.
- Student can receive up to $2,400 in a lifetime.
- What are the employment needs?
  - Certified professional planner
  - Human resources certification
  - Project manager certification
- BOCES can get financial aid.

Appendix C:

Additional Space Utilization
Tables and Analysis

SUNY ECC

Instructional Spaces

Figures C.1 to C.3 summarize the instructional spaces that were scheduled during week six for each campus, including the number of seats, rooms, and course meetings for classrooms and class labs.

The tables show that the vast majority of ECC's classrooms have seats to accommodate 31-40 students. Most class labs are sized for 21-30 students, with the exception of the South Campus where 51 percent of class labs are sized for 11-20 students.

Figure C.1

City Campus - Instructional Spaces in Study (Week 6)

	Seats	Number of Rooms	Percentage of Rooms	Number of Day Course Meetings	Number of Evening Course Meetings	% of Day Course Meetings	% of Evening Course Meetings
Classrooms	1 to 10	1	2%	2	3	0%	3%
	11 to 20	2	5%	27	3	4%	3%
	21 to 30	9	21%	160	16	24%	15%
	31 to 40	25	60%	373	65	56%	61%
	41 to 50	4	10%	80	16	12%	15%
	71 to 80	1	2%	21	4	3%	4%
Subtotal		42	100%	663	107	100%	100%
Class Labs	1 to 10	1	4%	4	0	1%	0%
	11 to 20	6	21%	79	8	23%	15%
	21 to 30	14	50%	169	32	48%	62%
	31 to 40	6	21%	94	12	27%	23%
	41 to 50	1	4%	5	0	1%	0%
Subtotal		28	100%	351	52	100%	100%
Total		**70**	**100%**	**1,014**	**159**	**100%**	**100%**

Figure C.2

North Campus - Instructional Spaces in Study (Week 6)

	Seats	Number of Rooms	Percentage of Rooms	Number of Day Course Meetings	Number of Evening Course Meetings	% of Day Course Meetings	% of Evening Course Meetings
Classrooms	21 to 30	9	14%	119	12	10%	10%
	31 to 40	46	72%	940	103	80%	82%
	41 to 50	2	3%	35	2	3%	2%
	61 to 70	2	3%	17	0	1%	0%
	101 to 125	1	2%	21	2	2%	2%
	226 to 250	3	5%	46	7	4%	6%
	351 to 400	1	2%	4	0	0%	0%
Subtotal		64	100%	1,182	126	100%	100%
Class Labs	1 to 10	3	4%	27	5	4%	4%
	11 to 20	25	36%	247	49	40%	35%
	21 to 30	28	41%	245	66	40%	47%
	31 to 40	11	16%	82	20	13%	14%
	51 to 60	1	1%	9	0	1%	0%
	226 to 250	1	1%	10	0	2%	0%
Subtotal		69	100%	620	140	100%	100%
Total		**133**	**100%**	**1,802**	**266**	**100%**	**100%**

Figure C.3

South Campus - Instructional Spaces in Study (Week 6)

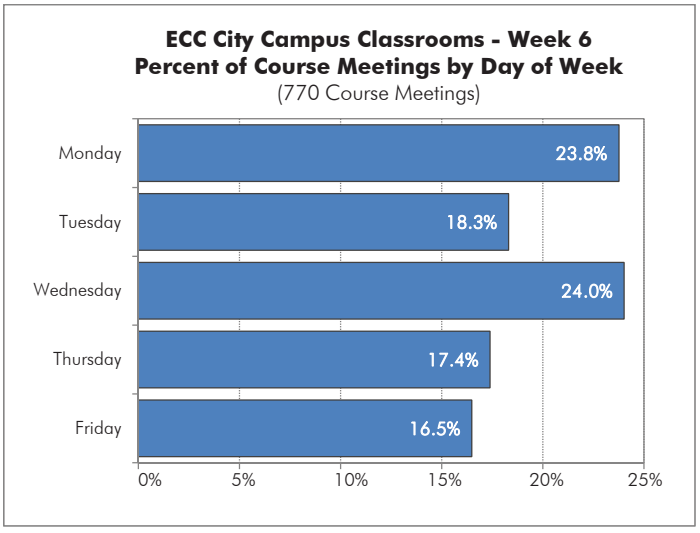
	Seats	Number of Rooms	Percentage of Rooms	Number of Day Course Meetings	Number of Evening Course Meetings	% of Day Course Meetings	% of Evening Course Meetings
Classrooms	11 to 20	1	3%	3	2	0%	3%
	21 to 30	6	17%	79	4	12%	5%
	31 to 40	25	69%	485	62	75%	78%
	41 to 50	2	6%	42	7	6%	9%
	126 to 150	2	6%	41	4	6%	5%
Subtotal		36	100%	650	79	100%	100%
Class Labs	1 to 10	2	5%	13	1	3%	1%
	11 to 20	22	51%	189	48	42%	56%
	21 to 30	9	21%	105	17	23%	20%
	31 to 40	9	21%	127	19	28%	22%
	41 to 50	1	2%	15	0	3%	0%
Subtotal		43	100%	449	85	100%	100%
Total		**79**	**100%**	**1,099**	**164**	**100%**	**100%**

Distribution of Course Meetings by Day of Week

Figures C.4 to C.6 illustrate the distribution of the course meetings for each campus on a day-to-day basis. For example, the 183 course meetings that were held in classrooms on Mondays on City Campus (Figure 6.8) represent 23.8 percent of all day course meetings during the sixth week of the fall 2012 semester. This includes courses that met only on Mondays, along with courses that met on Monday/Wednesday, Monday/ Wednesday/Friday, etc.

If course offerings were distributed uniformly across a five-day schedule, one would expect that 20 percent of all course meetings would occur on any given day. The graphs indicate that course meetings are largely held on Monday through Thursday with Monday and Wednesday being scheduled slightly more than the rest of the week. Fridays also show better than average use in terms of the amount of course meetings scheduled.

Figure C.4



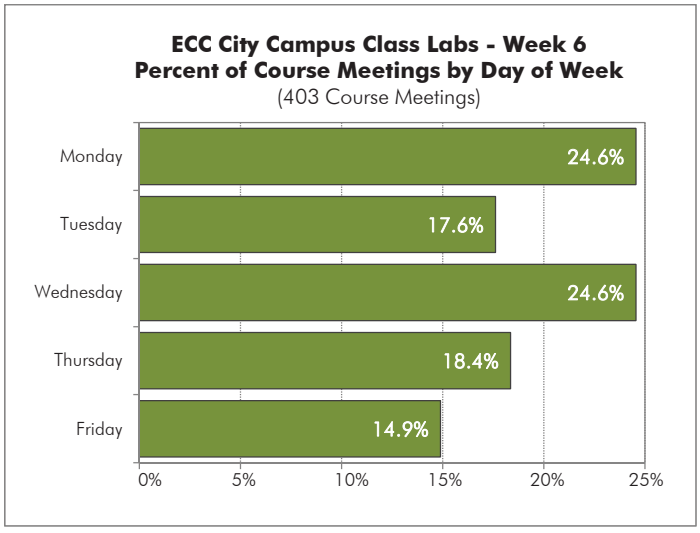
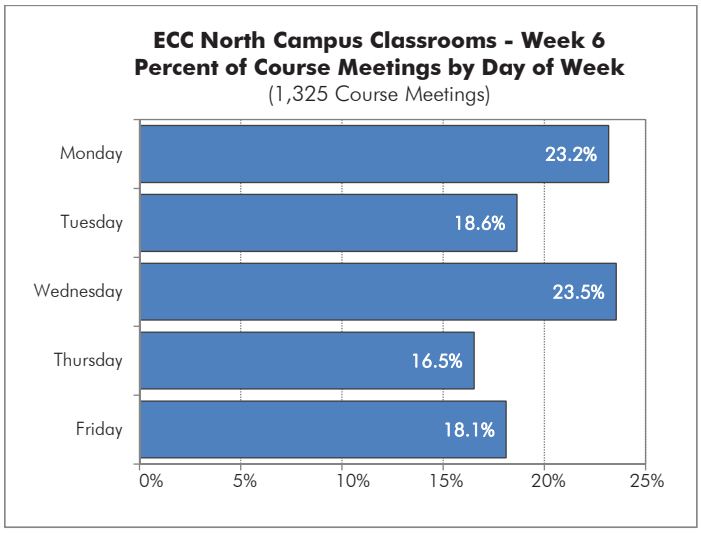


Figure C.5



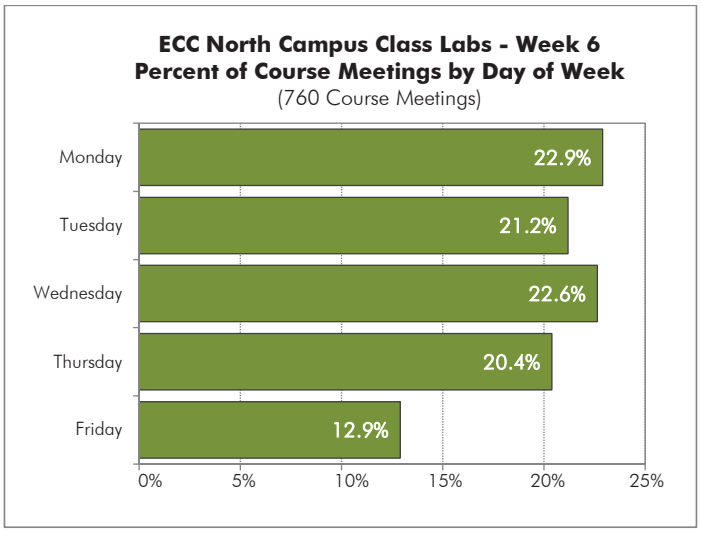
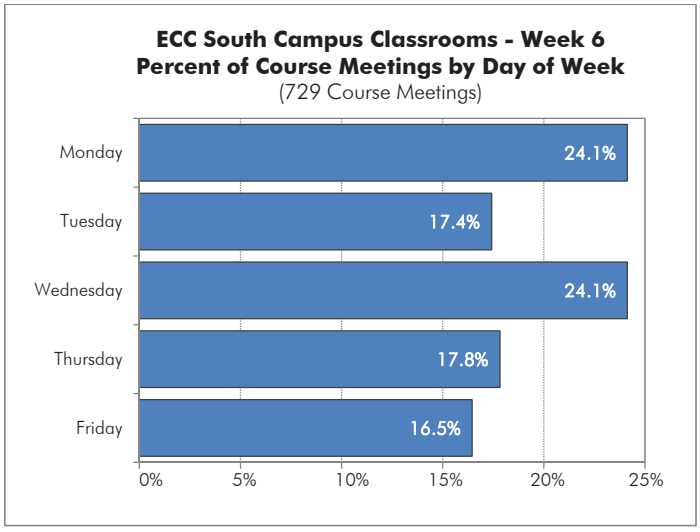
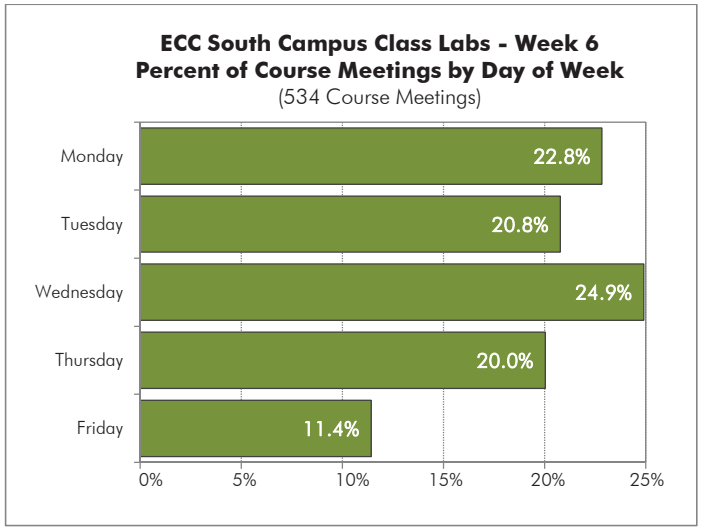


Figure C.6





A different way of looking at course delivery by day of the week is to look at course meeting distribution based on the combination of days that courses are taught. Figures C.7 to C.9 show daytime course meeting distribution by day combinations in classrooms and class labs on each campus.

Figure C.7

ECC City Campus Fall 2012 Daytime Classrooms Course Distribution by Day of Week Week 6		
Day of Week	Daytime Courses	Percent
M	11	1.7%
Tu	11	1.7%
W	16	2.4%
Th	6	0.9%
F	7	1.1%
M/W	52	7.8%
M/F	4	0.6%
Tu/Th	206	31.1%
W/F	2	0.3%
M/W/F	348	52.5%
Total	663	100.0%

ECC City Campus Fall 2012 Daytime Class Labs Course Distribution by Day of Week Week 6		
Day of Week	Daytime Courses	Percent
M	12	3.4%
Tu	10	2.8%
W	11	3.1%
Th	10	2.8%
F	7	2.0%
M/W	52	14.8%
MF	2	0.6%
Tu/Th	96	27.4%
M/W/F	147	41.9%
M/Tu/W/Th	4	1.1%
Total	351	100.0%

ECC City Campus Fall 2012 Evening Classrooms Course Distribution by Day of Week Week 6		
Day of Week	Daytime Courses	Percent
M	23	21.5%
Tu	24	22.4%
W	21	19.6%
Th	22	20.6%
F	1	0.9%
M/W	10	9.3%
Tu/Th	6	5.6%
Total	107	100.0%

ECC City Campus Fall 2012 Evening Class Labs Course Distribution by Day of Week Week 6		
Day of Week	Daytime Courses	Percent
M	6	11.5%
Tu	7	13.5%
W	8	15.4%
Th	11	21.2%
F	3	5.8%
M/W	2	3.8%
Tu/Th	4	7.7%
M/Tu/W	3	5.8%
M/Tu/W/Th	8	15.4%
Total	52	100.0%

Figure C.8

ECC North Campus Fall 2012 Daytime Classrooms Course Distribution by Day of Week Week 6		
Day of Week	Daytime Courses	Percent
M	15	1.3%
Tu	24	2.0%
W	15	1.3%
Th	21	1.8%
F	21	1.8%
M/W	76	6.3%
Tu/Th	338	28.2%
W/F	2	0.2%
M/Tu/W	3	0.3%
M/W/Th	3	0.3%
M/W/F	594	49.6%
M/Tu/W/Th	4	0.3%
M/Tu/W/F	76	6.3%
M/Tu/W/Th/F	5	0.4%
Total	1,197	100.0%

ECC North Campus Fall 2012 Daytime Class Labs Course Distribution by Day of Week Week 6		
Day of Week	Daytime Courses	Percent
M	59	9.5%
Tu	68	11.0%
W	48	7.7%
Th	65	10.5%
F	43	6.9%
M/W	66	10.6%
M/Th	4	0.6%
M/F	2	0.3%
Tu/Th	108	17.4%
Tu/F	4	0.6%
W/F	8	1.3%
M/W/F	129	20.8%
M/Tu/W/Th	16	2.6%
		0.0%
Total	620	100.0%

ECC North Campus Fall 2012 Evening Classrooms Course Distribution by Day of Week Week 6		
Day of Week	Daytime Courses	Percent
M	21	16.4%
Tu	20	15.6%
W	25	19.5%
Th	14	10.9%
M/W	24	18.8%
Tu/Th	24	18.8%
Total	128	100.0%

ECC North Campus Fall 2012 Evening Class Labs Course Distribution by Day of Week Week 6		
Day of Week	Daytime Courses	Percent
M	24	17.1%
Tu	25	17.9%
W	32	22.9%
Th	24	17.1%
F	5	3.6%
M/Tu	2	1.4%
M/W	10	7.1%
Tu/Th	10	7.1%
W/Th	2	1.4%
M/Tu/W	6	4.3%
Total	140	100.0%

Figure C.9

ECC South Campus Fall 2012 Daytime Classrooms Course Distribution by Day of Week Week 6		
Day of Week	Daytime Courses	Percent
M	5	0.8%
Tu	5	0.8%
W	9	1.4%
Th	8	1.2%
M/W	48	7.4%
Tu/Th	212	32.6%
M/Tu/Th	3	0.5%
M/W/F	360	55.4%
Total	650	100.0%

ECC South Campus Fall 2012 Daytime Class Labs Course Distribution by Day of Week Week 6		
Day of Week	Daytime Courses	Percent
M	30	6.7%
Tu	32	7.1%
W	40	8.9%
Th	29	6.5%
F	29	6.5%
M/Tu	4	0.9%
M/W	78	17.4%
M/F	2	0.4%
Tu/Th	112	24.9%
M/Tu/Th	3	0.7%
M/W/F	90	20.0%
Total	449	100.0%

ECC South Campus Fall 2012 Evening Classrooms Course Distribution by Day of Week Week 6		
Day of Week	Daytime Courses	Percent
M	18	22.8%
Tu	9	11.4%
W	16	20.3%
Th	8	10.1%
M/W	12	15.2%
Tu/Th	10	12.7%
M/Tu/Th	3	3.8%
M/W/Th	3	3.8%
Total	79	100.0%

ECC South Campus Fall 2012 Evening Class Labs Course Distribution by Day of Week Week 6		
Day of Week	Daytime Courses	Percent
M	13	15.3%
Tu	18	21.2%
W	18	21.2%
Th	18	21.2%
F	1	1.2%
M/W	10	11.8%
Tu/Th	4	4.7%
M/W/Th	3	3.5%
Total	85	100.0%

In classrooms and class labs during the day, the majority of courses on each campus met on either a Monday/Wednesday/Friday or a Tuesday/Thursday schedule, which are traditionally the two primary day combinations. Courses were also scheduled a fair amount of time on Monday/Wednesday. As the course schedule tightens, stretching the Monday/Wednesday courses to a Monday/Wednesday/Friday schedule might open up additional time on Mondays and Wednesdays for other courses.

In classrooms and class labs during the evening, the majority of course meetings were held only one day per week: 63 percent of classrooms and 79 percent of class labs at North Campus; 85 percent of classrooms and 67 percent of class labs at City Campus; and 65 percent of classrooms and 80 percent of class labs at South Campus.

Appendix D:

Reported Space Needs

The reported space needs, by program, are summarized below. While addressing all program needs is rarely feasible, this study captured the college-wide space needs as reported in programming interviews.

Advanced Manufacturing Technology

North

- Advanced Manufacturing Lab, storage, and faculty office space.

Biology

North

- Need an additional lab and lecture space; currently cannot offer courses to all students who want them - they have to go to South Campus.
- Currently have two labs and lecture halls. Would like two additional labs with a prep space between them.
- Additional office space for full-time and adjunct faculty.
- More storage space.
- Would like access to four additional smart classrooms.
- Need a Biology Skills Center/Tutoring Room (360-400 sf).

South

- Need access to more smart classrooms.

City

- Need additional office space.

Bioinformatics, A.S. (New Program)

North

- This new program will share lab space and computer facilities within the Science area. As the program grows it will place more of a demand on the already over-utilized Biology labs and computer labs on the North Campus.

Biomanufacturing (New Program)

North

- The Certificate Program is being expanded to create a new Biomanufacturing, A.S. degree.
- Biomanufacturing Lab Multi-Purpose Suite.
- Biomanufacturing Production Support/Core Facility/Food Processing Lab.
- Biomanufacturing Quality Control Lab.

Building Management and Maintenance

City

- Additional lab space for HVAC & R program.

Business Administration

North

- Adjunct faculty space.
- Tutoring space for Accounting; currently working out of a former storage room.

Chemistry

North

- Open computer labs. The program has contracted so there may be extra labs.

City

- Locate Chemical Storage Room on the same floor as the labs.
- Larger Labs (Two labs that have 16 stations are also used for lectures of up to 32 students.)
- Adjunct faculty offices for four part-time faculty.

Clinical Laboratory Technology

North

- Renovations to all labs.
- Enlarged Lab B608 (Lab should be twice the size so it has space for 12 students at tables and chairs for lecture, in addition to its three beds.)

Communication & Media Arts

North

- Additional computer labs
- Secure storage space for equipment
- A practice presentation room for students to practice giving oral and video presentations

City

- Secure storage room (near Room 4218)

South

- A room to be used for loaning out equipment to students
- An additional video editing lab

Construction Management Engineering

North

- A computer lab (adjacent to the Construction Lab)
- Larger Construction Lab

Criminal Justice

General Comments

- Access to classrooms for up to 40 students
- A dedicated classroom for Crime Scene Technology
- An evidence room

- Crime scene room on each campus

City
- Five dedicated classrooms

North
- Additional faculty office space.
- A conference room.
- Larger CST Lab (B409), which could be shared with the Police Academy

Culinary Arts

City
- A separate Baking Lab
- Larger Production Lab (can accommodate up to 14 students now, but course enrollments have recently hit 22 students)
- Offices for full- and part-time faculty
- Additional storage space

North
- A Cooking/Baking Lab (old locker room is scheduled to be converted to this use)
- Larger Small Quantity Food Lab (eight stations now but up to 20 students are in the lab at a time)

Cybersecurity

North
- Cybersecurity Lab.

Dental Hygiene

North
- A dental assisting lab for eight students with storage space
- An additional faculty office for Dental Assisting program
- Additional storage space

Dental Lab Technology

South
- Dedicated room for new CAD/CAM class for 12 students with a faculty station
- Lab for 40 and another for 20 with a Casting Lab between them

Dietetic Technology

North
- A larger computer lab with 12 student stations (currently use 147G which only has six computers)

Early Childhood Education

City
- Access to an additional smart classroom.

Electrical Engineering Technology

North
- Upgrading/remodeling of all rooms, especially B104 and B114

EMT

South
- Two to three bay garage for victim extractions demo and skills workshops

North
- Additional small skills assessment areas to meet NYS testing requirements (need 14-20 skills stations)
- Update all labs

Engineering Science

North
- Additional larger lab (current space is 624 square feet with 14 computer stations used for both lab and lecture. New lab should connect to the existing lab so that experiments can complement classroom instruction.)
- Adjunct faculty office space (adjacent to office for full-time faculty)
- Small study area for students in close proximity to faculty, equipped with a table, chairs, and a whiteboard

English

North, City, and South
- Computers in all classrooms

General Studies

North
- Additional support staff space
- Waiting space for students near faculty offices

Health Information Technology

North
- Larger classroom/lab space for 24 students (currently use B608)
- Access to two computer labs (coursework requires students to have access to the Internet)

Homeland Security

North
- Access to the Incident Command Board Room

Hospitality Management

North
- Changing area/locker room (accreditation requirement)

Humanities

North
- Larger or an additional MAC Lab (K255) for computer art and digital photography
- Appropriate space for Music (not in a computer lab, which has happened)
- Secure instrument storage space
- Improved access to Theater for music and drama if department regained sole use of Theater
- A Dance Studio
- Adjunct office space

City
- A MAC Lab (City Campus does not have a digital lab)
- Larger smart classrooms
- Adjunct office space

HVAC & R

City
- Additional space in 45 Oak (possibly 138 and 138A)
- Larger lab

Industrial Technology

North
- Four additional labs for GM training, additional course sections, and so students can get hours of supervised lab time out of class
- As program grows and additional labs are added, more space will be needed for storage, faculty, and other support space.

Information Technology

North
- Remodeled/upgraded labs for Homeland Security program
- Additional lab space

Library

North
- Tutoring center
- Collaborative faculty resource area

City
- Create a Learning Commons complete with group study rooms, quiet study rooms, a computer lab, soft seating areas, and a career counseling center

South
- Tutoring center
- Group study rooms

Math/Computer Science

City

Additional faculty office space

South
- Enlarged Math/English Lab (sharing space works for both departments, but there are only six computer workstations and more are needed)
- Collaborative Learning Classroom (1,400 sf) with 25 computers around the perimeter of the room and 25 tables and chairs for lecture in the center of the room
- Five dedicated computer labs.
- Access to larger classrooms

Mechanical Engineering Technology

North
- Lab/workshop for capstone projects that has a variety of equipment and space for students to work

Mechatronics (New Program)

North
- This program will initially use existing labs, computer labs, and smart classrooms
- Storage space

Medical Assisting

North
- Access to an additional smart classroom
- Enlarged lab (larger than B608) with tables for Phlebotomy training and sufficient storage space for equipment

Nursing

North
- A&P/Micro Lab
- 64-seat tiered classroom adjacent to a 24-seat classroom for teaching and testing
- Access to additional smart classrooms
- An additional Nursing Lab
- SIM Suite with control room, storage for mannequins, storage room, and debriefing room
- Dedicated tutoring area
- Dedicated testing area for special needs students (up to 12)
- Dedicated computer lab

- Dedicated quiet study space

City
- Computer lab
- Dedicated quiet study space

Occupational Therapy Assistant

North
- Larger labs (K119 should be 1,400 sf plus storage space. K114 should be 1,600 sf, plus storage.)
- Kitchen/bathroom/bedroom area for training students to work with patients

Ophthalmic Dispensing

North
- Ophthalmic Assisting Lab with 12 stations (same size as B107).

Paralegal

City
- Dedicated conference room in office area where students can meet with faculty (reportedly required for accreditation)
- Access to a Computer Lab with 30 computer stations (needs to have a copier/scanner for student use, as well as an area for staging documents. Could use Room 114 if it had this equipment)

North and South
- Program office space

Physical Education Studies

North, City, and South
- Pools at North and South
- Yoga/exercise rooms at North and South
- North and City: Additional office space for adjuncts
- North: Larger fitness center
- South: Would like to take over Suite 6206 for office space and to create a six-station computer lab.

Radiation Therapy Technology

City
- Sink, block cutting area, and secure storage in Classroom/lab 142 (45 Oak)
- Access to a small meeting room

Respiratory Care

North
- Larger classroom (Classroom 211 is too small; need space for 30 students

and area for break out groups; therefore, 28 sf/student.)
- Another SIM room
- Another Respiratory Lab (bedroom set-up with observation/control room, bathroom, laundry room, and reception area) if Polysomnography/Sleep Disorders program is started
- If computers are taken out of lab 215 to provide needed space for classes, will need access to a computer lab.

Social Sciences

North
- Adjunct faculty offices.
- Increased access to smart classrooms (currently overfilling rooms, which have poor HVAC control)

City
- Access to additional smart classrooms.
- Adjunct office space.

South
- Adjunct faculty offices.
- Access to additional smart classrooms.
- More storage space.

Welding Technology (New Program)

City
- Welding Labs. Fabrication Lab. Tool storage. Material storage. Locker rooms. Faculty offices Classroom. Space for cutting and grinding.

North
- Offices for three new full-time staff (related to a grant)
- Office for Director (in addition to the existing office at City Campus)

Police Academy

North
- Dedicated building
- Large, flexible scenario room
- Indoor firing range with ten stations (6,500 sf)
- Dedicated athletic training space - currently conflicts with athletic program in Bell Center. Need a Defensive Tactics Room (2,000 sf), weight/exercise room (1,500 sf), and lockers (2,000 sf).
- Access to an additional smart classroom
- Would like 712B and 712C dedicated to Police Academy for firearms unit and driving simulator.
- 1,200 sf of storage space
- Crime Scene Lab (now located in trailer)
- Museum/display area for badges, commendations, etc.

Appendix E:

Recommended Program Moves

Recommended Academic Program Moves

Recommendations for the consolidation of ECC's academic programs are provided the Academic Program Moves Matrix on the following page. The first set of columns identifies the location of existing programs and the type of degrees offered at each campus. The second set of columns documents the proposed location of new and existing programs. Green highlighting indicates programs that should be consolidated on a single campus. Purple indicates new programs or degrees. Red indicates where programs have been moved and light blue represents programs that may be deactivated. The tallies at the bottom of the columns indicate the number of certificate and degree programs at each campus.

Appendix E: Recommended Program Moves

	Current Programs and Locations							Proposed Programs and Locations						
	City		North		South		Online	City		North		South		Online
Program	Cert.	Degree	Cert.	Degree	Cert.	Degree	Online	Cert.	Degree	Cert.	Degree	Cert.	Degree	Online
Advanced Manufacturing Technology											AAS			
Advanced Police Science, Certificate			X							X				
Architectural Technology: Construction Technology						AAS							AAS	
Automotive Technology						AAS							AAS	
Automotive Trades: Autobody Repair						AAS							AAS	
Baking & Pastry Arts	X							X						
Bio Manufacturing			X							X	AS			
Bioinformatics											AS			
Building Management & Maintenance		AOS							AOS					
Building Trades/Residential Light Commercial	X							X						
Business Administration		AAS		AAS		AAS	AAS		AAS		AAS		AAS	AAS
Business: Business Administration (Transfer)		AS		AS		AS	AS		AS		AS		AS	AS
Casino Gaming Machine Repair Technology					X							X		
Civil Engineering Technology				AAS							AAS			
Clinical Laboratory Technician				AAS							AAS			
CNC Precision Machining			X					X						
Communication & Media Arts: Commercial Arts						AS							AS	
Computer Aided Drafting & Design Technology						AAS							AAS	
Computer Applications for the Office			X				X			X				X
Computer Repair Technology						AAS							AAS	
Computer Science				AS							AS			
Computer Security & Investigations/Digital Forensics			X							X				
Construction Management Engineering Technology				AAS							AAS			
Crime Scene Technology	X		X							X				
Criminal Justice: A.S. Option		AS		AS		AS	AS		AS		AS		AS	AS
Criminal Justice: Law Enforcement				AAS			AAS				AAS			AAS
Culinary Arts		AOS		AOS					AOS					
Cybersecurity											AS			
Dental Assisting			X							X				
Dental Hygiene				AAS							AAS			
Dental Laboratory Technology						AAS					AAS			
Early Childhood		AAS						X	AAS					
Electrical Engineering Technology				AAS							AAS			
Electrical Maintenance										X				
Electronics										X				
Emergency Management		AAS									AAS			
Emergency Medical Services Provider			X		X					X				
Emergency Medical Technology: Paramedic					X	AAS				X	AAS			
Energy Utility Technology			X					X						
Engineering Science				AS							AS			
Entrepreneurship	X							X						
Event Planner								X						
Environmental Science				AAS							AAS			
Environmental Technology Geoscience				AAS							AAS			
Financial Services	X													
Fire Protection Technology						AAS					AAS			
Food Manufacturing, Certificate										X				
Food Service Admin: Dietetic Tech: Nutrition Care				AAS							AAS			
Geographic Information Systems			X				X							
Green Building Technology	X							X						

Appendix E: Recommended Program Moves

Health and Wellness													AS	
Health Information Technology				AAS							AAS			
Heating, Ventilating, Air Conditioning & Refrig. Tech.	X		X					X						
Homeland Security	X		X				X			X				X
Hotel Restaurant Management		AAS		AAS					AAS					
Human Services	X		X		X			X		X				
Human Resources								X						
Industrial Technology				AOS					AOS					
Information Systems Security			X							X				
Information Technology				AAS		AAS					AAS			
Liberal Arts & Science: General Studies		AS		AS		AS	AS		AS		AS		AS	AS
Liberal Arts & Science: Childhood Education 1-6		AS							AS					
Liberal Arts & Science: Hum & Social Science		AA		AA		AA	AA		AA		AA		AA	AA
Liberal Arts & Science: Math				AS							AS			
Liberal Arts & Science: Science		AS		AS		AS			AS		AS		AS	
Manufacturing Production								X						
Mechanical Engineering Technology				AAS							AAS			
Mechanics/Automation								X						
Mechatronics										X	AAS			
Medical Office Assistant				AAS							AAS			
Medical Office Practice			X							X				
Mental Health Assistant: Alcohol Counseling		AS							AS					
Mental Health Assistant: Substance Abuse		AS							AS					
Non-Matriculated	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Nursing		AAS		AAS					AAS		AAS			
Occupational Therapy Assistant				AAS							AAS			
Office Assistant	X							X						
Office Management		AAS		AAS		AAS	AAS		AAS		AAS			AAS
Ophthalmic Dispensing				AAS							AAS			
Paralegal		AAS							AAS					
Physical Education Studies		AS		AS		AS			AS		AS		AS	
Police Basic Training			X							X				
Police Science				AAS							AAS			
Polysomnography/Sleep Medicine										X				
Project Manager Professional								X						
Radiologic Technology: Radiation Therapy Tech		AAS							AAS					
Respiratory Care				AAS							AAS			
Supply Chain Management/Logistics								X						
Teaching Assistant	X							X						
Telecommunications Technology						AAS	AAS						AAS	AAS
Visual Communication Tech: Graphic Art & Printing						AAS							AAS	
Web and Mobile Applications												X		
Web Network Technology			X											
Web Page Design					X							X		
Welding Technology									AOS					
Advanced Welding								X						
Basic Pipe Welding								X						
Welding Fabrication								X						
	12	20	18	33	6	21	12	21	21	19	39	4	17	11

Program consolidated and/or moved
Program moved to another location
Potential new academic offering
Program may be deactivated

Appendix F:

STEM Building Space Program

67,320 SF Building Space Program

Space Name	Department	NSF per Unit	Units	Total NSF	Comments
Science					
Biology Lab - Medical Technology	Biology	1,500	1	1,500	B612
Biology Lab	Biology	1,200	1	1,200	K256
Biology Lab	Biology	1,200	1	1,200	K260
Biology Lab	Biology	1,200	1	1,200	
Biology Prep Room	Biology	450	2	900	
Biology Faculty Offices	Biology	100	10	1,000	Must include Medical Tech and Medical Assisting Faculty
Biology Adjunct Faculty	Biology	30	19	570	
Chemistry Lab	Chemistry	0	1	0	B600
Chemistry Lab (Medical Lab Technology/Medical Assisting)	Chemistry/Medical Lab Technology/Medical Assisting	1,440	1	1,440	B601 - Lab shared by Science and Health Sciences
Chemistry Lab (Medical Lab Technology/Medical Assisting)	Medical Lab Technology/Medical Assisting	1,440	1	1,440	B603
Chemistry Lab (Vatea Lab)	Chemistry	800	1	800	B704 - No courses held in lab.
General Chemistry Lab	Chemistry	1,400	1	1,400	B708
Organic Chemistry Lab	Chemistry	1,850	1	1,850	B711
Chemistry Lab	Chemistry	1,800	1	1,800	B717
Chemistry Lab (Unit Open Lab)	Chemistry	1,200	1	1,200	B718 - Open Lab. No classes.
Chemistry Storage/Prep Room	Chemistry	480	3	1,440	
Chemistry Stock Room	Chemistry	300	2	600	
Balance Room	Chemistry	500	1	500	
Chemistry Special Services Space	Chemistry	600	1	600	Unknown use.
Chemistry Faculty Offices	Chemistry	100	6	600	
Chemistry Adjunct Faculty	Chemistry	30	5	150	
Engineering Science Lab	Engineering Science	600	1	600	Existing B718B
Engineering Science Lab	Engineering Science	700	1	700	Requested as lab adjoining lab used for lectures/computer use.
Engineering Science Faculty Office	Engineering Science	100	2	200	Currently one full-time faculty; size for two and for future flexibility.
Engineering Science Adjunct Faculty Office	Engineering Science	30	4	120	Currently 2 adjuncts; size room for future flexibility.
Physics Lab	Physics	0	1	0	K155
Physics Lab	Physics	1,000	1	1,000	K157
Physics Lab	Physics	1,000	1	1,000	K160
Physics Lab	Physics	1,000	1	1,000	K161
Physics Prep/Storage	Physics	340	1	340	
Physics Faculty Offices	Physics	100	6	600	
Physics Adjunct Faculty	Physics	30	5	150	
Future Science Faculty	Science	100	4	400	
Science Tutoring Center	Science	400	1	400	Tutors do not have private offices.
Science Computer Lab	Science	600	1	600	26 computers
Science Student Study Space	Science	400	1	400	Shared by all Science students
Science Adjunct Meeting Room	Science	100	1	100	Space for adjuncts to meet with students. Locate adjacent to adjunct office area.
Science Faculty Reception	Science	400	1	400	175 nsf Biology; 264 nsf Chemistry; 122 nsf Physics (4 workstations)
		Science Subtotal		29,400	
Mathematics					
Mathematics Faculty Offices	Mathematics	100	21	2,100	Currently 12 Offices for 21 Full-Time Faculty- shared with Computer Science
Mathematics Adjunct Faculty Offices	Mathematics	30	22	660	
Mathematics Faculty Reception	Mathematics	300	1	300	3 workstations; K151, K249 and K251
Mathematics Adjunct Meeting Room	Mathematics	100	1	100	Space for adjuncts to meet with students. Locate adjacent to adjunct office area.
		Mathematics Subtotal		3,160	

Appendix F: STEM Building Space Program
67,320 SF Building Space Program (continued)

Space Name	Department	NSF per Unit	Units	Total NSF	Comments
Health Sciences					
Anatomy and Physiology Lab/ Micro Lab	Nursing	1,400	1	1,400	
Anatomy and Physiology Lab/ Micro Lab Pre	Nursing	400	1	400	
Medical Assisting Lab	Medical Lab Technology/Medical Assisting	800	1	800	B608. Existing space is too small; need have three beds and space for up to 12 students for lecture, plus more storage
Medical Assisting Lab Prep/Storage	Medical Assisting	360	2	720	Currently three rooms.
Medical Lab Technology Lab	Medical Lab Technology/Medical Assisting	1,500	1	1,500	B610
Medical Lab Technology Lab	Medical Lab Technology/Medical Assisting	600	1	600	Lecture/Lab room used for Phlebotomy training
Medical Lab Technology Prep/Storage	Medical Lab Technology/Medical Assisting	600	1	600	
Medical Lab Technology Computer Lab	Medical Lab Technology/Medical Assisting	180	1	180	B611C
Sterile Room	Medical Assisting	80	1	80	B611B
Medical Lab Tech/Medical Assisting Offices	Medical Lab Technology	0	1	0	It appears these faculty fall under a different category in the staffing list
Biomanufacturing Lab Multi-Use Suite	Biomanufacturing	1,250	1	1,250	Required for certification of program.
Biomanufacturing Quality Control Lab	Biomanufacturing	300	1	300	Required for certification of program.
Biomanufacturing Production Support/Core Facility/Food Processing Lab	Biomanufacturing	640	1	640	Required for certification of program.
Respiratory Care Lab	Respiratory Care	400	1	400	G205 - Not used for classes.
Respiratory Care Lab	Respiratory Care	500	1	500	G215. Computers currently in room. Space would be sufficient if computers were located elsewhere, but then would require access to computer lab.
Respiratory Therapy Lab	Respiratory Care	500	1	500	G217 - Not used for classes.
Sleep Disorders Lab	Respiratory Care	230	2	460	Bedroom, sitting area, bathroom.
Sleep Disorders Observation Room	Respiratory Care	120	1	120	
Sleep Disorders Storage/Laundry	Respiratory Care	80	1	80	
Respiratory Care Reception	Respiratory Care	200	1	200	(1 workstation)
Respiratory Care Faculty	Respiratory Care	100	3	300	
Respiratory Care Adjunct Faculty	Respiratory Care	30	10	300	
Nursing Lab	Nursing	1,400	1	1,400	K261
Nursing Skills Lab	Nursing	1,400	1	1,400	
Utility Room	Nursing	200	1	200	
Storage Room	Nursing	240	1	240	
Dressing Room	Nursing	30	1	30	
Nursing Faculty Reception	Nursing	300	1	300	(2 workstations)
Nursing Faculty	Nursing	100	13	1,300	
Nursing Adjunct Faculty	Nursing	30	7	210	
Future Health Sciences Faculty	Health Sciences	100	4	400	
Health Sciences Study Room	Health Sciences	650	1	650	K259. Should include computers, models, video viewing stations.
Health Sciences Computer Lab	Health Sciences	800	1	800	135 nsf - B611C. 26 computers.
Health Sciences Tutoring Center	Health Science	400	1	400	210 nsf - Respiratory Care; Tutors do not have private offices.
Health Sciences Adjunct Meeting Room	Health Sciences	100	1	100	Space for adjuncts to meet with students. Locate adjacent to adjunct office area.
Health Sciences Faculty Reception	Health Sciences	300	6	1,800	226 nsf - Med. Lab Tech/Med. Assist (2 workstations)
	Health Sciences Subtotal			20,560	

67,320 SF Building Space Program (continued)

Space Name	Department	NSF per Unit	Units	Total NSF	Comments
Center for Interdisciplinary Practice and Simulation (CIPS)					
Simulation Lab (1 Adult Mannequin)	CIPS	180	1	180	G205 - Not used for classes.
Simulation Lab (1 Adult Mannequin)	CIPS	180	1	180	
Simulation Lab (Infant)	CIPS	180	1	180	
Debriefing Room	CIPS	200	1	200	For 8-10.
Control Room	CIPS	120	1	120	
Observation Room	CIPS	240	1	240	Seminar-type space with flat panel screen and CCTC connected to all SIM Rooms.
Mannequin/Supply Storage	CIPS	160	1	160	Storage area for all College mannequins.
CIPS Office	CIPS	200	1	200	
		CIPS Subtotal		1,460	
Instructional Space					
Computer Lab	General Instruction	800	2	1,600	26 computers
Classroom	General Instruction	480	2	960	24 seats
Classroom	General Instruction	800	2	1,600	32 seats @ 25 sf/student. Allows space for break-out work in class.
Classroom	General Instruction	960	2	1,920	48 seats
Classroom	General Instruction	480	1	480	24 seats; directly adjacent to 64 seat classroom.
Classroom	General Instruction	1,280	1	1,280	64 seats; directly adjacent to 24 seat classroom.
	General Instruction Subtotal			7,840	
Shared Space					
Workroom	Shared	140	2	280	One per floor. Existing Physics Copy Room at 352 nsf.
Testing Room	Shared	240	1	240	
Open Computer Lab	Shared	600	1	600	20 computers
Lounge	Shared	400	1	400	Faculty/Staff/Student
Conference Room	Shared	500	1	500	25 seats
Conference Room	Shared	240	1	240	12 seats
Fitness Center	Shared	1,500	1	1,500	
Multi-Purpose Room (Yoga, Dance, etc.)	Shared	800	1	800	
Fitness Center Office	Shared	200	1	200	
Fitness Center Storage	Shared	140	1	140	
		Shared Subtotal		4,900	
				67,320 NASF	

Appendix F: STEM Building Space Program
34,360 SF Building Space Program

Space Name	Department	NSF per Unit	Units	Total NSF	Comments
Science					
Biology Lab	Biology	1,200	1	1,200	K256
Biology Lab	Biology	1,200	1	1,200	K260
Biology Lab	Biology	1,200	1	1,200	
Biology Prep Room	Biology	450	2	900	
Biology Faculty Offices	Biology	100	10	1,000	Must include Medical Tech and Medical Assisting Faculty
Biology Adjunct Faculty	Biology	30	19	570	
Chemistry Lab (Medical Lab Technology/Medical Assisting)	Chemistry/Medical Lab Technology/Medical Assisting	1,440	1	1,440	B601 - Lab shared by Science and Health Sciences
General Chemistry Lab	Chemistry	1,400	1	1,400	B708
Organic Chemistry Lab	Chemistry	1,850	1	1,850	B711
Chemistry Lab	Chemistry	1,800	1	1,800	B717
Chemistry Storage/Prep Room	Chemistry	480	3	1,440	
Chemistry Stock Room	Chemistry	300	2	600	
Balance Room	Chemistry	500	1	500	
Chemistry Special Services Space	Chemistry	600	1	600	Unknown use.
Chemistry Faculty Offices	Chemistry	100	6	600	
Chemistry Adjunct Faculty	Chemistry	30	5	150	
Engineering Science Lab	Engineering Science	600	1	600	Existing B718B
Engineering Science Lab	Engineering Science	700	1	700	Requested as lab adjoining lab used for lectures/computer use.
Engineering Science Faculty Office	Engineering Science	100	2	200	Currently one full-time faculty; size for two and for future flexibility.
Engineering Science Adjunct Faculty Office	Engineering Science	30	4	120	Currently 2 adjuncts; size room for future flexibility.
Future Science Faculty	Science	100	4	400	
Science Tutoring Center	Science	400	1	400	Tutors do not have private offices.
Science Computer Lab	Science	600	1	600	26 computers
Science Student Study Space	Science	400	1	400	Shared by all Science students
Science Adjunct Meeting Room	Science	100	1	100	Space for adjuncts to meet with students. Locate adjacent to adjunct office area.
Science Faculty Reception	Science	400	1	400	175 nsf Biology; 264 nsf Chemistry; 122 nsf Physics (4 workstations)
		Science Subtotal		20,370	
Health Sciences					
Anatomy and Physiology Lab/ Micro Lab	Nursing	1,400	1	1,400	
Anatomy and Physiology Lab/ Micro Lab Pre	Nursing	400	1	400	
Biomanufacturing Lab Multi-Use Suite	Biomanufacturing	1,250	1	1,250	Required for certification of program.
Biomanufacturing Quality Control Lab	Biomanufacturing	300	1	300	Required for certification of program.
Biomanufacturing Production Support/Core Facility/Food Processing Lab	Biomanufacturing	640	1	640	Required for certification of program.
Utility Room	Nursing	200	1	200	
Storage Room	Nursing	240	1	240	
		Health Sciences Subtotal		4,430	
Center for Interdisciplinary Practice and Simulation (CIPS)					
Simulation Lab (1 Adult Mannequin)	CIPS	180	1	180	G205 - Not used for classes.
Simulation Lab (1 Adult Mannequin)	CIPS	180	1	180	
Simulation Lab (Infant)	CIPS	180	1	180	
Debriefing Room	CIPS	200	1	200	For 8-10.
Control Room	CIPS	120	1	120	
Observation Room	CIPS	240	1	240	Seminar-type space with flat panel screen and CCTC connected to all SIM Rooms.
Mannequin/Supply Storage	CIPS	160	1	160	Storage area for all College mannequins.
CIPS Office	CIPS	200	1	200	

34,360 SF Building Space Program (continued)

Space Name	Department	NSF per Unit	Units	Total NSF	Comments
Instructional Space					
Computer Lab	General Instruction	800	1	800	26 computers
Classroom	General Instruction	480	2	960	24 seats
Classroom	General Instruction	800	2	1,600	32 seats @ 25 sf/student. Allows space for break-out work in class.
Classroom	General Instruction	960	1	960	48 seats
Classroom	General Instruction	480	1	480	24 seats; directly adjacent to 64 seat classroom.
Classroom	General Instruction	1,280	1	1,280	64 seats; directly adjacent to 24 seat classroom.
	General Instruction Subtotal			6,080	
Shared Space					
Workroom	Shared	140	2	280	One per floor. Existing Physics Copy Room at 352 nsf.
Open Computer Lab	Shared	600	1	600	20 computers
Lounge	Shared	400	1	400	Faculty/Staff/Student
Conference Room	Shared	500	1	500	25 seats
Conference Room	Shared	240	1	240	12 seats
		Shared Subtotal		2,020	
				34,360 NASF	