

SUNY Erie Center for STEM Studies

A State-of-the-Art Facility for Training Tomorrow's Tech Leaders





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SUNY ERIE COMMUNITY COLLEGE

TRAINING THE NEXT GENERATION OF STEM LEADERS

The process from concept to completion has taken more than eight years, but the long awaited Center for STEM Studies at the SUNY Erie Community College North Campus is now a reality.

The North Campus has been largely untouched since SUNY Erie first opened at this location in 1960. It took resolve on the part of the College community along with county, regional and state partners, who remained focused on the importance of STEM education at both SUNY Erie and throughout Western New York.

“The long-awaited opening of the Center for STEM Studies at the SUNY Erie North Campus is the result of years of dedication on the part of college and elected officials from throughout Western New York,” said SUNY Erie President Dr. Dan Hocoy.

This state-, county- and college-funded project provides approximately 57,000 square feet of new facility space for labs, prep rooms and support spaces for Biology, Chemistry, Physics and Engineering Science programs, as well as shared instructional spaces, collaborative study spaces, a tutoring center, and faculty offices.

Improvements to the campus quad adjacent to the STEM building, including a paved entry plaza with integrated seating elements, have already provided the campus with an infusion of energy. The new building has positioned SUNY Erie to prepare students for skilled labor jobs, in an economy expected to lose 20 percent of its Baby Boomer-aged workforce in the coming years, while also allowing the college to be more competitive in gaining prospective students looking for STEM fields.

From education coursework I've done in the past, the single most significant variable in student retention is maximizing interaction with faculty. That's what this building does. It's an example of how architecture can change the way people behave."

PROFESSOR MATT WELCHONS



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BEFORE AND AFTER THE CENTER FOR STEM STUDIES

The Center for STEM Studies has breathed new life into the programs housed there. Content of the courses now located in the building are similar, but the facilities and lab equipment now available to students is significantly improved. All areas are modernized to replicate the tools of the field.

Biology now has a sterilizer (autoclave). Physics previously had all equipment that appeared to be from the 1950s, and now boasts modern, state-of-the-art tools. Some of the College's academic buildings have not been conducive to student life, with classmates routinely sitting in hallways on the floor. The new STEM facilities have changed that, with seating, common areas and an atmosphere more functional for a vibrant student community.

Classrooms and labs—which used to be

separate—are now linked, easing transition between lectures and the hands-on activities vital in most STEM-related courses.

Microbiology has never had its own lab space – until now. The program previously shared space with the Clinical Lab Technician Program. Professors and students now have labs, prep rooms, storage cubbies, and anti-microbial flooring dedicated to course work. Expansion of space and capabilities has also allowed the College to add Microbiology sections and increase credit hours from two to three, allowing for more hands-on lessons (“experimentation over demonstration”) applicable to prospective careers.

“It has a mall atmosphere, and not only increases interaction between students, but also between students and faculty members,” said Professor Matt Welchons (anatomy, physiology). “From education coursework I've done in the past, the single most significant variable in student retention is maximizing interaction with faculty. That's what this building does. It's an example of how architecture can change the way people behave.”

CAREER TRAINING OFFERED AT THE CENTER FOR STEM STUDIES

Offerings at the Center for STEM Studies are varied, but whether through transfer to a four-year program or direct employment opportunities, all offerings have a path to a STEM career. Current programs include Natural Science (formerly the Liberal Arts and Science degree program), Environmental Science and Engineering Science. These programs all operate as transfer-ready programs, with students enrolling and training through each to transfer to other SUNY schools, colleges and universities.

Aside from those programs, the building hosts a variety of service courses under the Health Sciences umbrella, with chemistry, biology and physics offerings—all servicing a variety of programs—scheduled daily. These courses are required for students majoring in programs, including Nursing, Respiratory Care and Food Service Administration – Dietetic Technology, a program that expects to see growth with the addition of a new Culinary Medicine track.

Courses in the building are also required for those seeking to transfer into a Physical Therapy or Occupational Therapy degree elsewhere. Students in anatomy and physiology labs are training for careers in nursing, respiratory care and dental hygiene. Medical lab technician, physical therapy, occupational therapy, and environmental science are others, with students taking SUNY Erie courses with the intention of continuing on for a four-year degree.

But, these careers go far beyond the medical and renewable energy



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fields. Just over half of SUNY Erie's programs leading to an associate degree are in STEM fields, including Construction Management, and Mechanical and Electrical Engineering Technology. Local career opportunities in environmental technology and telecommunications also require training in STEM education, allowing this state-of-the-art facility to aid a variety of growing Western New York employment fields.

Whether through available certificate and associate degree programs, or applicable credits toward four-year degrees, this facility has positioned SUNY Erie to lead local residents toward the job security and higher wages STEM careers can offer.



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KIDENEY ARCHITECTS, PC

NORTH CAMPUS HISTORIC STATUS



Kidene Architects, PC

“The Center for STEM Studies is a symbol of the overall culture change at SUNY Erie.”

PRESIDENT HOCOY

WHY HERE?

“The Center for STEM Studies is pivotal to the future of SUNY Erie Community College,” President Hocoy noted. “This facility not only allows for interdisciplinary teaching with flexible laboratories that enhance instruction, but we have enhanced informal learning for our students as well.”

Allowing students space to study and collaborate is an important aspect of any modern learning environment, Hocoy added. “In an age of social media and online communities, providing students with comfortable space for collaboration is imperative to creating a living, learning community.”

Professor Welchons said that students are “not only paying for an education, they’re paying for an environment. Here at SUNY Erie, you get both for a much lower cost, and a much more kind, nurturing environment than you find at a larger school.”

Dr. Hocoy stressed the importance of progress at the College as way to impart a renewed vision of SUNY Erie to the Western New York community.

“The Center for STEM Studies is a symbol of the overall culture change at SUNY Erie,” President Hocoy said. “SUNY Erie is continuously evolving as a College that connects with students and is dedicated to increasing student success, while training the future workforce of the region. This STEM facility supports that new vision.”

In 1960 the Erie County Technical Institute (ECTI) moved to the present site of the SUNY Erie North Campus on Main Street in Williamsville. ECTI, which functioned as a technical-vocational unit of the State University of New York, had resulted from statewide efforts to expand the state educational system to meet rapidly changing needs for graduates skilled in new and emerging fields and technologies. The move to Williamsville, and the development of an entirely new campus, is representative of the birth of the Community College system in New York State.

As one of the first five community colleges in New York State, all of the original ECTI buildings were based on a coordinated design vocabulary, and constructed as a prototypical suburban community college campus. The campus master plan, and all of the original buildings (8 in all), were designed as one of the last architectural commissions of the noted Buffalo architect Duane S. Lyman and Duane Lyman Associates (1958-60). The buildings were completed in 1960 by the general contracting firm Siegfried Construction Company of Buffalo New York.

Within three years of completion, the new campus academic buildings had already reached the maximum capacity of students that could be accommodated. In 1965, the Buffalo architecture firm of Kideney, Smith & Fitzgerald was engaged to develop plans to double the size of campus. The campus expansion completed between 1967

and 1969 included the following improvements:

- **Spring Student Center** - a large new entrance was constructed, the bookstore was enlarged, and an addition was constructed to accommodate a new coffee shop.
- **Bretschger Hall** - the four technical buildings were linked together with new classroom spaces, laboratories and large lecture halls.
- **Dry Library** - an addition expanded the building to the east, and a new entrance was developed facing Bretschger Hall to provide students easier access to the library.
- **Gleasner Hall** - existing classrooms were converted into office and administrative spaces.
- **Kittinger Hall** - a new two - story building adjacent to Gleasner Hall, added classrooms, laboratories and offices.



Kideney Architects, PC

The new and expanded buildings were ready for occupancy in 1969, and at that time, the institution became known as Erie Community College.

Through the years, the SUNY Erie North Campus buildings have undergone changes to serve students and faculty with state-of-the-art facilities and professionally accredited programs. In 2016, SUNY Erie celebrated its 70th anniversary. In the past seven decades, the college has grown from a small two-year technical institute to a three-campus college serving more

than 14,000 students. Today, SUNY Erie is the second largest college in Western New York.

In December 2011, the SUNY Erie North Campus was evaluated by the New York State Office of Historic Preservation (SHPO), as a historic resource associated with events that have made a significant contribution to the broad patterns of our history. The North Campus was deemed National Register eligible, as a relatively intact original manifestation of the early development and expansion of the Community College and State University System in New

York State, for the following reasons:

- The SUNY Erie North Campus is one of the first five community colleges in New York State. It was developed in 1958 in response to increasing business needs for employees skilled in new and emerging technologies.
- SUNY Erie is recognized for the important role it played in the education of World War II veterans.
- All original buildings of the Erie County Technical Institute were designed by noted Buffalo architect Duane Lyman.

- All original buildings of the North Campus were expanded by the Buffalo architecture firm Kideney, Smith & Fitzgerald.
- Because the SUNY Erie North Campus has been deemed National Historic Register eligible, preliminary site and building design concepts for the proposed STEM Building were required to be submitted for review by SHPO. The preliminary design submission to SHPO found no adverse impact to historic resources by the proposed STEM Building.

ECC STEM - A Building to Prepare for the Next Generation



It takes teamwork to bring any construction project to completion. At Mark Cerrone, Inc., we are dedicated to building the right team of project managers, skilled labor, support personnel, subcontractors, and vendors to bring each project to successful outcome. But it is not enough to build your own team, you must work together with Owners, Construction Managers, Architects, Engineers, and the other stakeholders who have a vested interest in building for the future. We thank the *Erie Community College, Turner Construction, and Kideney Architects* for their leadership and vision to build the right team for this project.

Mark Cerrone, Inc. is honored to have worked for *Scufari Construction* and *Goodwin Electric*. We would also like to thank our key team members - subcontractors and vendors - for their efforts:

- **A-1 Landcare** (Site Survey and Controls)
- **KHEOPS Survey** (Site Survey and Controls)
- **Valery Concrete** (Concrete Flat-work)
- **Fox Fence** (Temporary Site Fencing)
- **Baughman's Magic Seal** (Parking Lot Striping)
- **Niagara Sealant** (Joint Sealant & Caulking)
- **Babcock Utilities** (Direction Bore)
- **New Enterprise Stone** (Aggregates & Asphalt)
- **Kistner Concrete** (Pre-Cast Drainage Structures)
- **Fluid Kinetics** (Sanitary Pumps and Controls)
- **Swift River** (Recycled Concrete and Material Recycling)
- **Contech Construction** (Separator Structure)
- **Lock City Supply** (Pipe and Underground Products)
- **Lafarge** (Decorative Boulders)
- **Merk Blasting** (Sanitary Line Boring)
- **Allied/Keystone Building Supply** (Geotextiles)
- **EJ USA** (Frames and Covers/Grates)



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DESIGN CONCEPTS

Site Design Concept

In its original configuration, the design team understood that there were shortcomings to the existing campus Quad. Open to Youngs Road and minimally landscaped, the existing Quad was vulnerable to the prevailing west winds and when the weather kicked up, could be inhospitable. The North Campus buildings were loosely connected by walkways and roads, but the outdoor space at the center of the campus did not feel like a collegiate Quadrangle; it had no “sense of place”.

From the beginning of the project, the design team saw the proposed STEM Building as more than just a place to accommodate teaching the sciences. The new building, sited carefully, offered an incredible opportunity that has transformed the campus. Using the new building to enclose the fourth side of the Quad has strengthened definition of the Quad, and created a great, collegiate outdoor space which has become the heart of the campus that was previously missing. Other features and benefits of the improvements to the Quad include:

- Seating, ornamental plantings and shade trees have been added to the Quad, making it more attractive and comfortable.
- Additional paved pathways have

been added to connect to the most important destinations.

- The west elevation of the new STEM Building faces busy Youngs Road, presenting a new, technologically current image of the campus to the community.

To the west, between the STEM Building and Youngs Road, a densely landscaped raingarden has been added. The raingarden is approximately one-third of an acre in area, and is both a landscape feature and a stormwater management feature. Runoff collected from the entire Quad and the STEM Building roof is directed to the raingarden for detention, filtering and slow release. Engineered soil media and underground settlement tanks filter the stormwater prior to release into the watershed.

A wildflower seed mix and other plantings in the raingarden have been selected for four-season interest and color. When fully established there will be hundreds of flowering plants and water-tolerant ornamental trees. At the center of the raingarden there is a small paved area with monolithic stone seating elements, accessed only from the building, which may be used as an outdoor classroom.

Building Design Concept

During the programming phase, the design team toured several of the existing academic buildings at the North Campus,



Kideney Architects, PC

and visited teaching spaces to get an understanding of how they functioned at that time. In Bretschger and Kittinger Halls we regularly observed many students sitting on the floor in the corridors, studying in small groups or waiting for classes to change. It became apparent that there were no

appealing places in the original academic buildings for students to wait, study or collaborate.

The new building is designed to accommodate academic program requirements, to integrate sophisticated building systems and incorporate technology to facilitate current teaching styles. Another

TURNER CONSTRUCTION:

AUG. 24, 2016
Partners at
groundbreaking



DEC. 19, 2016
Steel erection starts



SEPT. 16, 2016
Foundation and
excavation starts



FEB. 27, 2017
Steel complete/
topping out



equally important design goal for the STEM Building was to provide informal spaces for collaboration and opportunities for student/faculty interaction.

The corridors at the first and second floor are wedge shaped, increasing in width as you move from the center lobby toward the north or south. The increased width allows the inclusion of many small collaborative booths and comfortably furnished spaces for casual encounters, encouraging students to linger in the building before and after classes. These unprogrammed spaces have brought energy and activity to the STEM Building by providing places for students to wait, study, collaborate or just hang out.

The exterior design of the new building is comprised of three wall systems:

- Thermally isolated aluminum storefront & curtainwall systems with high performance glass, and horizontal and vertical shading devices provide significant natural light in public spaces, labs, classrooms and faculty offices.
- A metal composite panel rain screen system, over insulated nail base sheathing is used at the north and south elevations, and to differentiate the massing at the faculty office suite on the west elevation.
- A nominal 4-inch thick limestone veneer, insulated

cavity wall system is used at the east and west elevations.

The STEM Building exterior design and massing are very expressive. The materials and design do not replicate the 1960's style of the existing buildings on the historic North Campus, but the design has been developed as an expression of current technology that is sympathetic to the scale and character of the existing buildings.

Mechanical and Electrical Systems

The unique nature of this laboratory building required specialized design considerations. The mechanical and electrical systems for the STEM Building were designed using an Integrated Performance Design Process. This process is based on collaboration by the Architects, Engineers, and the Owner at the earliest stages of a project to deliver the most energy efficient and cost effective building possible. Sophisticated software is used to model the performance of all building systems. During the modeling process, the orientation, envelope, fenestration properties, heating and cooling plants, fume hood selection, lighting, domestic water heating and thermal comfort are all analyzed. This performance modeling matrix allowed the design team to optimize the building performance as a whole rather than basing the design on



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A TIMELINE OF PROGRESS

JUL. 10, 2017
 Exterior metal wall work complete



NOV. 10, 2017
 Sod installation



JAN. 16, 2018
 Students first day

various individual systems.

The building program called for over 30 fume hoods that require increased levels of continuous ventilation air and exhaust air, which can be extremely costly. The fume hoods were designed to be variable air volume (VAV) hoods, which by design significantly increased the energy efficiency and sustainability of the lab exhaust system operation. In order to ensure safe and quiet operation, fume hoods maintain a constant face velocity regardless of sash position. To ensure accurate control of the average face velocity, VAV hoods were incorporated using a closed loop control system. The system continuously measures and adjusts the amount of air being exhausted and supplied to maintain the required average face velocity. The addition of the VAV fume hood control system significantly increases the hood's ability to protect against exposure to chemical vapors or other contaminants while maximizing energy efficiency.

The result is a truly integrated design. Through this approach, the energy savings potential reduced the cost of treating the ventilation air and fan energy by nearly a third. The STEM building is projected to reduce its annual utility costs

by 32%. The design exceeds the performance requirements of the New York State Energy Conservation Construction Code, reducing the total building energy usage by nearly 42% compared to a building designed only to minimum code standards.

Designed by following the Integrated Design Process, energy-saving measures that were utilized for this project included:

- High performance building envelope, including fixed window shading devices
- Variable speed hot water and chilled water pumping
- Variable speed fans
- High efficiency LED lighting systems, including daylighting controls which reduce artificial light levels when sufficient natural light is available
- Demand controlled ventilation
- Energy recovery ventilation
- High efficiency boilers and chillers
- Radiant perimeter heating strategies
- Variable volume fume hood control

This building design is pending LEED Silver Certification through the US Green Building Council, and the project was awarded an incentive of \$81,408 under the



Kideney Architects, PC

NYSERDA New Construction Program.

DESIGN CONCEPTS BUILDING

PROGRAM

The SUNY Erie North Campus consists primarily of one and two-story buildings constructed between 1958 and 1969. While there had been interior modifications and equipment upgrades, the North Campus had no major capital improvements for many years. In early 2015, Kideney Architects, in



OUR APPROACH

The design approach for the mechanical and electrical systems serving the facility were closely coordinated through the Integrated Performance Design Process. This process incorporates the collaboration of the Architects, Engineers, and the Owner at the earliest stages of a project to deliver the most energy efficient and cost effective building possible. Each project is unique, but our approach is the same: stick to our traditional roots, while remaining innovative in design. The unique nature of this laboratory building required specialized design considerations.

RESULTS

The result was truly an integrated design. Through this approach, the STEM building was projected to reduce its annual utility costs by nearly 32% while reducing the total building energy usage by nearly 42% over a code-minimum designed building.

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partnership with JMZ Architects and Planners, was selected for the design of a new STEM Building at the North Campus of SUNY Erie in Williamsville, NY.

The building's space program evolved out of an academic program study completed by JMZ in 2013, which focused on understanding growth trends in local industry sectors, and made recommendations to align SUNY Erie programs with projected regional workforce needs and employment opportunities. The program study made recommendations for each of SUNY Erie's three campuses; recommendations for the North Campus identified that the Buffalo/Niagara region had a skills gap, and more graduates in science, technology, engineering and math programs (STEM) would be needed. A new facility designed to attract and educate students from Erie County and beyond for careers in STEM fields was recommended to be constructed at the North Campus.

The final space program resulted from an interview process that incorporated feedback from the college administration, faculty, college facilities representatives and the Erie County Department of Public Works. The completed STEM Building includes:

- (5) Biology Labs and associated



Mainframe Photography

lab prep rooms, including a specialized lab with laminar flow hoods and an autoclave to support a new Microbiology Program.

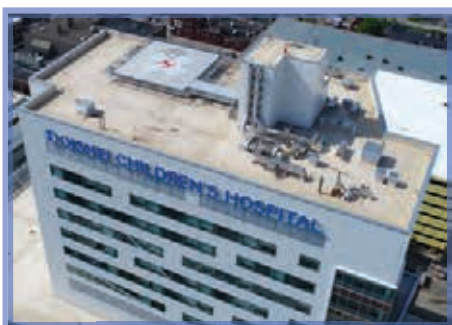
- (4) Chemistry Labs and associated lab prep rooms, including an Organic Chemistry Lab with a high density of fume hoods (13 hoods), and a specially designed HVAC system to provide make-up air and maintain comfortable and quiet conditions when the hoods are in operation.
- Over (30) fume hoods distributed throughout the building, necessitated sophisticated

make-up air and temperature control systems.

- (2) Tutoring spaces; one dedicated to the Biology program, including sophisticated anatomical models.
- (3) Physics and Natural Science Labs and associated lab prep rooms, which include ceiling and desk mounted systems for suspending equipment, and "blackout" shades to facilitate experiments and demonstrations using light.
- An Engineering Science Lab outfitted with modular, all-in-one computers at each of (24) student workstations.

- (2) Computer Labs, to accommodate (24) students each. In each Computer Lab, a benching system with integral power and data raceway has been provided to support use of (24) modular, all-in-one computers which recede beneath the desktop when not in use. These spaces can also function as multipurpose classroom spaces.
- (7) Shared multipurpose classroom spaces of varying sizes are provided to accommodate varying class sizes.
- All teaching spaces (classrooms and labs) are outfitted with an array of audiovisual equipment to support various teaching styles. Typical equipment includes ceiling-mounted projectors or large format monitors; podium; table or ceiling-mounted document cameras. Some spaces are fully outfitted for lecture capture, distance learning and video teleconferencing to facilitate collaboration with remote sites.
- Faculty office space is provided in a two-story Faculty Suite with reception at each level. Private, two-person and shared adjunct office spaces are provided. The suite also includes large and small

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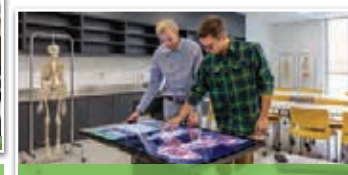


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Turner Construction partnered with Erie County and SUNY Erie to present another remarkable project for the Buffalo area with the completion of the SUNY Erie STEM building in Williamsville, NY.

Turner Construction Company, founded in 1902, is recognized as the leading General Builder and Education Builder in the U.S. We opened our first office here in Buffalo in 1908 and have been a major contributor throughout the Western New York region. We are committed to the future and the exciting growth of our area!

Turner encourages our employees to become active contributors within the community and we are honored to have the opportunity to support many local organizations by volunteering our time and resources to “make a difference”. We are proud of our involvement with the Buffalo Museum of Science, Boy Scouts of America, Girl Scouts, St. Luke’s Mission, American Cancer Walk, Cradle Beach, JDRF, Special Olympics, March of Dimes, WNY Food Bank, Habitat for Humanity, Buffalo City Parks, Ronald McDonald House, Leadership Buffalo, First Robotics, various K-12 STEM programs, Aquarium of Niagara, Kaleida Health Foundation, Women’s and Children’s Hospital Foundation, Kevin Guest House and many more. We are especially proud of our partnership with the NYS Small Business Development Center in conducting Contractor Readiness classes to support aspiring MWBE and SDVOB entrepreneurs and our over 200 graduates of this program. Turner shares, teaches and provides the tools needed for success!

With principle core values of **teamwork, integrity and commitment**, the company’s vision is to provide valuable services to our clients, build partnerships in the community and deliver first-class projects. We challenge ourselves to do what is best for the project not necessarily what is the easiest for construction. Our philosophy is straight forward...our clients are our respected friends and we want to have these relationships for life. We approach our work with a passion to exceed expectations and wholly fulfill the purpose of the original vision of the project. We continuously invest in leading-edge technology and provide experienced and knowledgeable staff to ensure “A promise made is a promise delivered.” This mission still rings as true today as it did 116 years ago.

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- ▶ Collaborative Innovation
- ▶ Collaboration Communication
- ▶ Transparency

Turner

THE RIGHT PROJECT ENVIRONMENT



Alan Waziak, Turner Construction

Turner believes that creating a strong team partnership from the beginning of the project enhances quality, facilitates schedule, creates mutual accountability and expedites project closeout. The SUNY Erie Community College STEM team consisted of the Erie County Executive's Office, the Erie County Department of Public Works, Erie County Department of Equal Opportunity, SUNY Erie Community College, the Design Team led by Kideney Associates that included, IBC Engineering, Syracuse Engineers, Watts Architecture & Engineering, JMZ Architects and Planners, Convergent Technology Design Group, SJB Services and CJ Brown Energy, consultants Bevlar & Associates and Phillips Lytle LLP. The prime contractors on the project were Goodwin Electric, Hogan Glass, John W. Danforth, Manning Squires Hennig Co, Quackenbush Company, Scrufari Construction Company along with several sub-contractors.

The SUNY Erie Community College STEM team goals focused on:

Maximizing customer value: Focus on providing each deliverable on time and to the standard required to keep the process flowing. By maximizing the capabilities of the web based management

system, every contract item was tracked as it related to the project schedule with the required on the job date and installation date. Using an interactive system saved time by providing status updates to all team members without having to be logged in and provided real time answers instantly to the field personnel. This project tracking method was also helpful for the scheduling and coordination of the Owner's vendors.

Eliminating Waste: The emphasis was to create a culture where everyone felt empowered to find waste and provide ideas to reduce it. The project team collaborated in several areas to produce efficiencies to better the project. A morning daily huddle was an effective regular process that engaged input from each contractor's foreman. Daily communication and feedback carved the path for project sequencing and enabled flexibility for changing strategies to accommodate the trades. What started as a north to south approach to accomplish building enclosure was adapted to first floor then second floor to expedite finishes. This success can be attributed to the collaboration of the trades during huddles and the input and accountability from pull planning and schedule forecasting. BIM collaboration and meetings were held onsite as productive working sessions. A representative from the Owner, every

firm from the design team and all the contractors participated. This approach provided for full team collaboration and expedited resolution to coordination issues

Continuous improvement:


The team took several initiatives to provide a better and more efficient work place. One way that was used to keep the project moving was the implementation of the Constraint Log. At every project managers meeting the team identified barriers. The "constraints" were added to the list, assigned specific ownership and the owner of each item provided a promised date to achieve the next step. Installing the west side metal panels, completing the elevator installation and setting up the south wing temporary cooling were all examples where this process worked! Another efficiency added to the project was to identify each room with a QR code posted by the door. By scanning the QR code with your tablet or smart phone, every inspection comment, for that room was visible whether it was for in wall inspections, above ceiling inspections or just an observation. When contractors were notified that rooms were ready to complete punch list work, it was as simple as scanning the QR code and sorting by your contract to see all items that needed to be addressed. This process was a significant efficiency in the time to review, perform the work and sign off on the punch list

Respect for people & Inclusion:

The most valuable asset to each project is the people. This project encouraged the development of a culture that would support input from the workers and respect for community events. The Campus helped to support this process by accommodating convenient parking for the workers. Through the construction process, worker feedback was solicited by conversation in the field, such as "how can this be accomplished easier?" Pre-installation conferences discussed logistics and ideas to simplify the work.

There was strong support from the contractors and everyone who participated in Turner's "Building Hope Campaign" to raise awareness for breast cancer.

Campus faculty and students also got engaged during our beam signing before the topping out of the building. The beam is still visible within the building so you can see signatures of all those that wanted to be a part of this building's contribution to the future of the community.



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• Darren K. Geibel, PE • Julie A. Marwin, PE - Associate

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MWBE UTILIZATION

Turner knows the benefits of supporting our locally based minority and women-owned businesses



Patt Rozler, Turner Construction

New York State, Erie County and SUNY Erie implemented minority and women owned business contracting goals of Minority 18%; Women 14%; EEO workforce – Minority 13.2%; Women 6.9% and Apprentice 10% respectively for the SUNY Erie STEM Project.

Turner Construction Company understands the benefits of this program and was fully engaged to develop a strategy to exceed the project goals to support our locally based MWBE businesses. Since 1969, Turner has been working to grow capacity and provide opportunity for MWBE businesses.

Locally Turner has been working with the NYS Small Business Development Center to provide training through a six week series of seminars taught by experienced leaders in contracts, estimating, insurance, safety, management and accounting for businesses interested in our industry. Turner shares their lessons learned from our many years of success with the participants.

There are over 10,000 graduates of our program nationally including over 200 WNY since 2003.

Turner partnered with Bevlar Associates

and the Erie County Department of Equal Employment Opportunity to implement a comprehensive MWBE utilization program early in the process that consisted of:

1. Community Outreach & involvement. Possibly the most significant factor in the early stages of any program is the active dissemination of information about the availability of the upcoming contracting and employment opportunities. Community outreach was performed through advertising in the local community papers along with the distribution of flyers to local church and community centers. Additionally, the Campus hosted two social gathering events. This was a way to introduce the potential MWBE contractors to other contractors and to explain the opportunities and scopes of work for each bid package in a casual setting.
2. Contractor Utilization Plan evaluation. The project team worked closely with the Prime Contractors right after the bid submission to confirm and verify the utilization plans submitted for compliance with the project goals.

3. Construction Monitoring Services. A web-based management system was utilized allowing all contractors and subcontractors to submit their certified payroll electronically with proper identification of workers so minority and women workforce data could be tabulated weekly and tracked toward the project goals. Bevlar Associates also made weekly site visits to check the onsite work force and verify information logged in to the web-based management system for accuracy.
4. Compliance Reporting. We discussed the project goals at every meeting over the life of the project and worked with the prime contractors to track data and project outcomes based on worker hour projections.

By implementing an early plan and continuing the focus on opportunities this project was able to deliver 20.78% of Minority Business participation and 19.54% of Women Business participation. The EEO workforce breakdown was 17.44% Minority, 6.9% Women and 14.76% Apprenticeship. Overall Turner exceeded the requirements and expectations of New York State and Erie County!

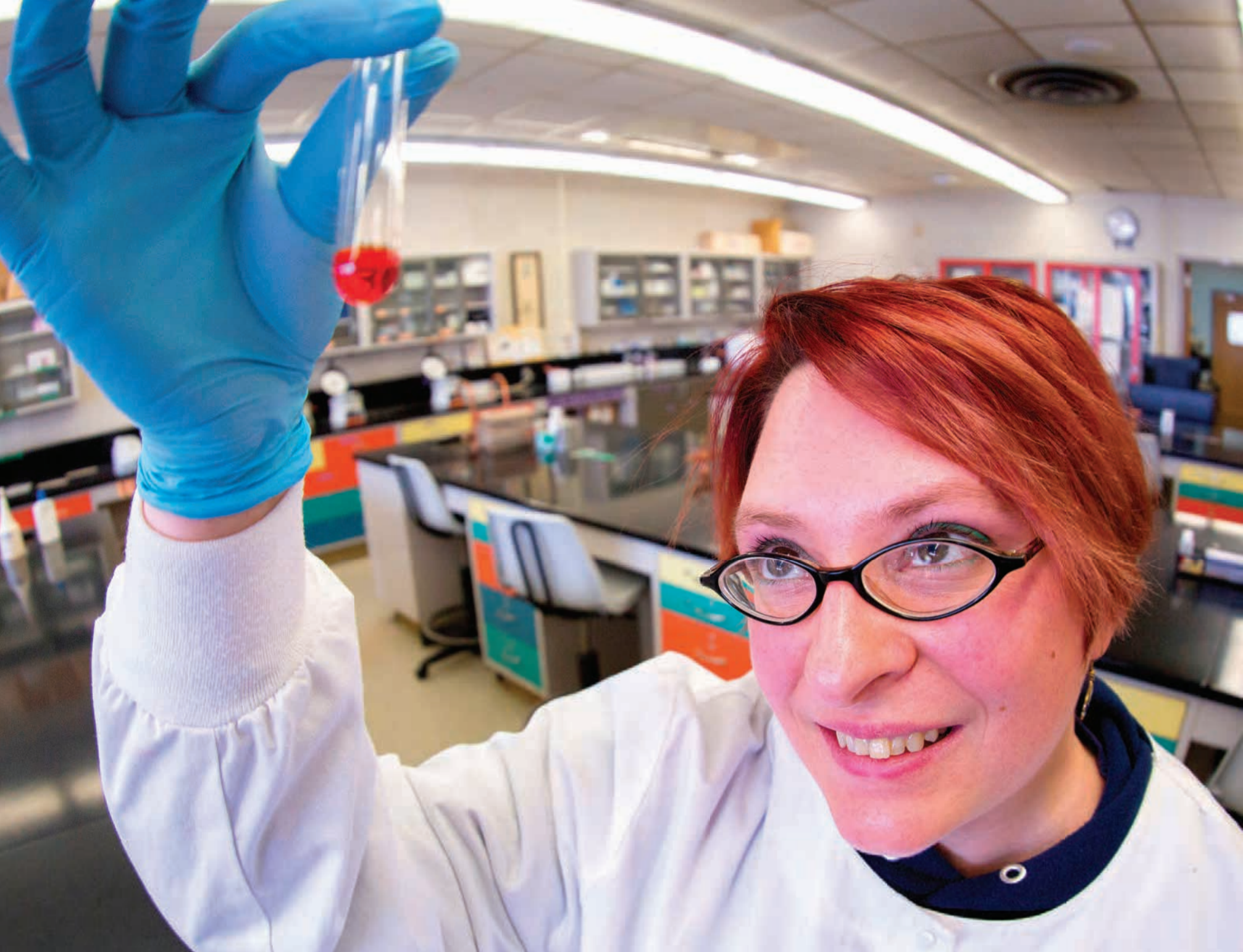
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Creating a Stronger Workforce through STEM Training

The new Center for STEM Studies on the North Campus is helping to make SUNY Erie Community College a leader in Science, Technology, Engineering, and Mathematics (STEM) education, and serves as a training ground for the region's future STEM leaders.



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