

Strategic Plan

Achieving Distinction:

*Innovating and Amplifying the Impact of Technology
for More Creative, Vibrant, and Economically Sustainable Communities*

June 2016

SUNY POLYTECHNIC
INSTITUTE

June 2016

Under the auspices of the **Steering Committee**, the **Strategic Plan Working Group** and other contributors prepared this document in accordance with the strategies and concepts collectively developed by the **Task Force** during Spring 2015.

All comments and inquiries should be sent to provost@sunyit.edu.



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History

About the Formation of SUNY Poly: Merger of SUNYIT and CNSE

In early 2013, Chancellor Nancy Zimpher charged a working group with reviewing the relationship between SUNY, UAlbany, and CNSE (which, up until that point, was an academic unit affiliated with UAlbany).

In response to the working group's report, on July 16, 2013, the SUNY Board of Trustees voted to create a new entity to focus on expanding the strengths of the College of Nanoscale Science and Engineering, resolving that:

The Board of Trustees fully endorses the Chancellor taking immediate steps to implement the separation of CNSE and UAlbany, and to identify and assist in the implementation of the actions required to establish a new degree-granting structure that shall include CNSE, at which time the separation will commence, and be subject to oversight and governance by the Board of Trustees... (Zimpher, 2013: 3)

A Steering Committee was formed with the chief executives of UAlbany and CNSE and charged an implementation team task force with developing action plans to realize the creation of a new entity. The Steering Committee and implementation teams offered a final recommendation that CNSE be combined with the SUNY Institute of Technology (SUNYIT). Formally, the combination would be executed as a transfer of CNSE from the administrative authority of UAlbany to SUNYIT.

The primary strategic advisory body for the SUNY Institute of Technology, the SUNYIT College Council issued the first formal (unanimous) written endorsement of a combination with CNSE by SUNYIT. Immediately following the SUNYIT College Council action, the Chairs of the SUNYIT Faculty and Staff Assemblies were thoroughly briefed by the SUNYIT Acting President. Concurrently, the SUNYIT Acting President initiated the formation of a SUNYIT governance advisory group to interface with the faculty governance and leadership at CNSE and the governance bodies at SUNYIT. An identical consultation process with CNSE faculty, students, and staff was implemented in late Fall 2013.

A joint SUNYIT-CNSE working group was subsequently formed of SUNYIT and CNSE faculty and staff, including the Chair and Secretary of the CNSE Council, the Chairs of the SUNYIT Faculty and Staff Assemblies, and SUNYIT's SUNY Senator. These and additional consultation activities proposed overarching structures of the combined institution in terms of academics and scholarship, governance, leadership and administration, and student engagement, as well as delineating a pathway to engage the necessary accreditation bodies for appropriate reviews and actions.

The SUNY Board of Trustees passed a formal resolution on March 19, 2014 authorizing

...the combination of the College of Nanoscale Science and Engineering (CNSE), and all of its related academic programs, presently under the administrative authority of the State University of New York at Albany (UAlbany), with the State University of New York Institute of Technology at Utica-Rome (SUNYIT). The resolution authorizes Master Plan amendments to allow the new SUNYIT to award degrees at the Ph.D. level in the areas of Nanoscale Science and Engineering. (Zimpher, 2014: 1)

SUNY System Administrators engaged the Middle States Commission on Higher Education regarding appropriate substantive change actions that would be necessitated to maintain SUNYIT's MSCHE accreditation. Discussions identified three principal areas of substantive change requiring consideration: (1) a change in mission; (2) a change in degree level (necessitated by the addition of existing CNSE PhD programs; and (3) an additional location. Substantive Change petitions have been submitted to MSCHE addressing these three areas.

The transfer of CNSE to SUNYIT, commonly referred to as a merger has been completed. Faculty members were transferred as of July 1, 2014 and the name was officially changed as of September 9, 2014 to the State University of New York Polytechnic Institute by vote of the Board of Trustees. Academic programs and some students have been transferred and new students have been admitted. A master plan amendment allowing the newly formed SUNY Poly to offer doctorate level programs was approved in May of 2015 and SED approval was also granted for the BS, BA and Master's level degrees. Upper class and graduate students, for the most part, associated with CNSE have not yet transferred. They, of course, have the option of completing their degrees with UAlbany. Nevertheless, some (4) have transferred and were awarded SUNY Poly B.S. degrees in May 2015.

First-year freshmen have been admitted to the programs of Nanoscale Science and Nanoscale Engineering and will matriculate in September 2015. Going forward, students will be admitted/transferred to programs including B.S. and M.S. in Nanoscale Engineering, B.S. and M.S. in Nanoscale Science, and Ph.D. programs in those two disciplines.

Preface

SUNY Polytechnic Institute formed through the merger of the SUNY Institute of Technology (SUNYIT) and the Colleges of Nanoscale Science and Engineering (CNSE) is midway through its third year of operation. All parties involved in the creation and approval of the merger agreed that the potential was enormous – establish the first public PhD granting polytechnic institution in New York by building on the strengths of both precursors. Of course, “the devil is in the details” of creating the operational structure that will be able to realize that potential. This Strategic Plan sets a broad course of action for the next five years as we focus on achieving success for all of our students and on providing an environment where our faculty can thrive.

Our intention is not only to strengthen and expand traditional offerings, but also to capture the unique opportunities offered by close proximity to cutting edge industries through applied learning pedagogy. Concurrently we seek to do so utilizing affordable degree programs in science, engineering, technology, health, and business management often financially out of reach for many families of otherwise capable students. We seek to create an institution that is quickly adaptable, responsive to contextual change, and ever-driving the evolution of emerging technologies. We do so in order to revitalize the economy of Upstate New York by providing the education, leadership, and innovation that will form a durable foundation for our future workforce and creative, vibrant communities.

Central to realizing our multiple strategies is the creation of many tactical initiatives or “Big Ideas” that will be highly instrumental for a new economy in Upstate New York; these big ideas are competitive and will insure prosperity for all citizens. We offer these ideas as opportunities for our faculty to grow, our students to pursue, and our government to support. We wish for nothing less than the creation of clusters of excellence that will propel SUNY Poly and the region to national stature.

Strategic Planning Steering Committee

Executive Summary

As collectively envisioned by its faculty, staff, and students, the Board of Trustees of the State University of New York, and the executive leadership of the State of New York, the SUNY Polytechnic Institute has been established as the prototype for the 21st Century University – a new, and exciting paradigm for affordable, public higher education in science, engineering, and technology of the highest quality; one that is cognizant and respectful of the customary academic enterprise, while fostering and enabling the fast evolving culture of discovery and innovation in the knowledge-driven global economy of the 21st century.

To fulfill the promise of this exciting new paradigm SUNY Poly has embarked upon an inclusive, comprehensive, and fully-engaged process to craft its inaugural strategic plan. Summarized here and built on a foundation of stakeholder participation and contribution, this strategic plan lays out the fundamental tenets of institutional success and implementation that will bring to full fruition, SUNY Poly’s transformational vision for 21st century public higher education.

Created through the merger of SUNY Institute of Technology and the College of Nanoscale Science and Engineering and approved by the SUNY Board of Trustees on March 19, 2014, the SUNY Polytechnic Institute has been envisioned as a vigorous community engaged in the pursuit of scholarship, public service, and intellectual and creative endeavors and committed to its role as a premier polytechnic institution dedicated to improving society by advancing knowledge and technology.

As such, the strategic mission of SUNY Poly is to serve as an intellectually vibrant, creative, and stimulating environment for innovation, education, and outreach that prepares its students to apply basic and applied knowledge to challenges, complexities, and opportunities of a modern technological society.

The Four Tenets of SUNY Poly’s Strategic Success

The SUNY Poly Strategic Plan, outlined below, is built on four, foundational tenets of strategic success that have been constructed to achieve our aspirational imperatives, symbolize our institutional values, and honor our institutional commitment to our students, faculty, staff, and the citizens of New York State.

1. **Integrated and Differentiated 21st Century University Enterprise:**

- A true, one-campus institution based on its distinctive and complementary academic hubs in Utica and Albany that comprise a whole greater than the sum of its parts in promoting engaged and universal intellectual discovery and knowledge creation across the full spectrum of technology and technology-related disciplines.
- A campus fully accessible and utilizable by all of its students, faculty, staff and partner

communities with access to the most advanced, extensive and complete nanotechnology research and development infrastructure of any university in the world.

- A coherent and robust academic enterprise comprising a network of Innovation and Economic Development Centers spanning the full breadth of New York State and built on the foundation of scholarship and research at its Utica and Albany academic hubs. This 21st century model – wholly unique to SUNY Poly – promotes the technology-driven ‘knowledge-based’ economy of New York State while providing an unparalleled experiential learning, training, research, and translational development platform for SUNY Poly’s students, faculty, staff and global partners.

2. Student Centeredness:

- A commitment to promoting a student-centric academic experience of the highest quality and scholarly standards based in open, free enquiry and pedagogical innovation across the fields of engineering, engineering technology, physical sciences, computing and information science, business, health and life sciences, social sciences, and technological related disciplines through an intrinsically interdisciplinary framework tailored for a 21st century higher education.
- A dedication to experiential (applied) learning through the utilization of SUNY Poly’s statewide network of innovation centers and partnerships to broaden the SUNY Poly student experience.
- A focus on a diverse, global and fully-engaged student community that helps develop the skills and creative abilities for the next generation of leaders in technology innovation while fostering a well-rounded and socially-responsible undergraduate and graduate education.
- An institutional ethos and commitment centered on student support, growth success across all aspects of campus life, and academic program participation.

3. Impactful and Translational Inquiry and Scholarship:

- Promotion of the culture of inquiry and resourcefulness and expansion of faculty and research staff disciplinary expertise and skill manifested by broad-based engagement in externally-funded, scholarly research.
- An interdisciplinary, collaborative approach to investigation, analysis and problem-solving for the translational application (i.e. research to practice) of fundamental knowledge creation to the development, implementation and deployment of advanced technologies and technology-derived methodologies.
- Full engagement of students, both graduate and undergraduate, to impactful and translational scholarship based on problem-solving across the research-to-practice continuum.

4. **Economic Innovation and Vitality:**

- Maintain and expand our institutional leadership in fostering innovative, entrepreneurial economic development and educational opportunities within New York, the nation, and beyond and promote responsibility and commitment to public service.
- A commitment to robust community and public-private partnerships that leverage SUNY Poly's leadership in research, development and implementation of new frontier technologies to create new career opportunities for the citizens of New York.
- A one-of-a-kind resource for workforce development and partnership to identify and deliver key skills training in new and emerging technologies to maintain New York's global leadership in the high-tech and nanotechnology workforce and ensure economic opportunity for its citizenry.

SUNY Poly Core Concentrations of Excellence

Derived from an open, collaborative, and cross-disciplinary dialogue across all SUNY Poly faculty and staff stakeholder groups, the twelve thematic strategies set forth in the main body and tactical core concentrations of excellence were advanced and promoted as key elements of the institutions strategic plan. These four interdisciplinary, campus-wide, and faculty-initiated concentrations of excellence – by no means exclusive – set an initial pathway to expand on SUNY Poly's reputation of excellence through reinforcing our established scholarship competencies while establishing new interdisciplinary concentrations on which to expand key educational, research, outreach, and economic development programs and initiatives:

Each tactical concentration represents a coherent effort that leverages collaborative faculty expertise and infrastructural complementarity at both SUNY Poly's Utica and Albany sites. Selected initiatives and scholarship foci for each thrust are detailed in the broader plan document.

- 1. *Life and Health Sciences Innovation and Discovery***
- 2. *Emergent Innovation in Engineering and Nanotechnology***
- 3. *Nano-Cyber Technology and Security***
- 4. *Social Creativity and Collaborative Design***

Uniting these concentrations is a commitment to “*High Impact Learning and Teaching.*” This serves as an overarching institutional ethos for SUNY Poly's pedagogical strategy and represents an intrinsic component of each core concentration of excellence. Based on a ‘learn by doing’ pedagogy centered on hands-on experiential and project-based learning, this thrust

will promote engagement of all of SUNY Poly's students in sponsored research and industry-specific collaboration – especially through SUNY Poly's statewide Innovation Network.

A preliminary set of proposed SUNY Poly graduate and undergraduate degree programs and competency centers for faculty concentration priorities – some well positioned for rapid submission and approval – were put forth as specific academic elements of the first four concentrations of excellence noted above.

CoE 1 “Life and Health Sciences Innovation and Discovery”:

- NANOBIOSCIENCE (PHD, MS), NANOBIOSCIENCE (BS)
- BIOMEDICAL ENGINEERING (BS, MS, PHD)
- DOCTOR OF NURSING PRACTICE (D)
- ADULT/GERONTOLOGICAL NURSE PRACTITIONER (MS)

CoE2 “Emergent Innovation in Engineering and Nanotechnology”:

- SYSTEMS ENGINEERING (MS, PHD)
- ELECTRICAL ENGINEERING (MS, PHD,), (CONCENTRATIONS IN NANOELECTRONICS)
- MECHANICAL ENGINEERING (MS, PHD,), (CONCENTRATIONS IN NANOMECHANICS AND NANOSCALE RELIABILITY)
- CIVIL ENGINEERING (MS, PHD,)
- MATERIALS SCIENCE (BS, MS, PHD), ENVIRONMENTAL ENGINEERING (BS, MS)
- PROFESSIONAL MASTERS (CONCENTRATIONS IN INTEGRATED PHOTONICS, SEMICONDUCTOR FABRICATION, SOLAR ENERGY, & MICROSYSTEMS)

CoE3 “Nano-Cyber Technology and Security”:

- NANO-CYBER SYSTEMS (BS, MS, PHD)
- INFORMATION SCIENCES (MS, PHD)
- DATA ANALYTICS AND INFORMATICS (MS, PHD)
- ANALYTICS/INFORMATICS (BS)
- COMPUTER SCIENCE & ENGINEERING (BS, MS, PHD)

CoE4 “Social Creativity and Collaborative Design”:

- INTERACTIVE MEDIA AND GAME DESIGN (BS, MS)
- INTERDISCIPLINARY – CREATIVITY and COLLABORATIVE VENTURING (BS)
- APPLIED SOCIOLOGY (MS)
- APPLIED MATHEMATICS (MS)

The Strategic Foundation of SUNY Poly – Its Colleges: The scholarly essence and intellectual identity of SUNY Poly's resides in its five founding Colleges and their faculty. Essential to the formation of SUNY Poly, respectful of the customary academic enterprise and traditions of its Utica and Albany sites, and cultivating the fast evolving culture of discovery and innovation demanded by 21st century institutions of higher learning these Colleges are at the heart of SUNY Poly.

- The College of Arts & Sciences
- The College of Engineering
- The College of Health Sciences and Management
- The College of Nanoscale Engineering and Technology Innovation
- The College of Nanoscale Sciences

These founding Colleges – and potential future Colleges – represent the programmatic and intellectual platform by which to develop and implement our four tenets of strategic success, thematic strategies, tactical concentrations of excellence, and academic degree programs enumerated above.

In line with SUNY Poly’s formation as a true 21st century university, each College is aligned with one or more thematic strategies and concentrations of excellence to advance and promote its own identity and reputation for excellence. All SUNY Poly Colleges will develop or expand doctoral emphases as keystones for innovation, research and knowledge creation. As part of the strategic planning process each College and its constituent departments or constellations have identified key resource needs to achieve their programmatic goals and implement initiatives aligned with institutional thematic strategies.

SUNY Poly Infrastructural Expansion: In line with the imperatives, thematic strategies, and concentrations of excellence outlined in this strategic plan, detailed consideration was given to key facility infrastructural needs at both the Utica and Albany academic hubs. These needs, ranging from student-residence and engagement facilities to academic program and research building infrastructure are summarized in the plan and serve as a guide to SUNY Poly’s ongoing facilities master planning process.

SUNY Poly Strategic Coordination with SUNY Performance Improvement Plan

SUNY Poly’s strategic planning process and the resulting strategic plan document has, at each stage, maintained an awareness and coordination with our Performance Improvement Plan required by SUNY System Administration. SUNY Poly’s plan, completed in October 2015, resulted in a number of targets for SUNY Polytechnic Institute for the year 2020 and are repeated here. These targets are listed below and are completely in line with the various institutional actions, initiatives and activities being promulgated under SUNY Poly’s four tenets of strategic success, thematic strategies, concentrations of excellence, and proposed academic degree programs:

- | | |
|-----------------------------|-------------|
| 1. Enrollment | 3500 |
| 2. Retention (1st year) | 85% |
| 3. Graduation Rate (6 year) | 60% |
| 4. Undergraduate Degrees | 508 |
| 5. Graduate Degrees | 215 |
| 6. Faculty Headcount | 295 |

- | | |
|--------------------------|-----------------------|
| 7. Student/Faculty Ratio | 13:1 |
| 8. Sponsored Activity | \$347 million |
| 9. Philanthropic | \$2.5 million |
| 10. Budget | \$38.9 million |

Dr. William W. Durgin

Provost and Chief Academic Officer

Introduction¹

SUNY Polytechnic Institute in Albany has risen to No. 4 in the National Science Foundation's latest ranking of engineering research and development spending nationwide as its R&D funding surged. SUNY Poly's Colleges of Nanoscale Science and Engineering in Albany had \$369 million in engineering R&D spending during the 12 months that ended June 30, 2013 ... SUNY Poly is also ranked No. 1 in the country for corporate R&D spending. (Rulison, 2015b: ¶1-10)

SUNY Polytechnic Institute (SUNY Poly) is New York's globally recognized, high-tech educational and research ecosystem, formed from the merger of the SUNY College of Nanoscale Science and Engineering and SUNY Institute of Technology. As a polytechnic institution, SUNY Poly offers a robust and diverse range of professional, technical and liberal arts programs, combining theory and practice to prepare graduates for rewarding careers that will enable them to be contributing members of society. SUNY Poly recognizes that a strong, student-centered education program is the foundation for baccalaureate, masters, and doctoral education. SUNY Poly aspires to become a premier polytechnic institution providing exceptional education to its students, advancing the frontiers of knowledge, and contributing to the development of the region and the state. This strategic plan is SUNY Poly's roadmap to excellence.

Through its five newly formed colleges, SUNY Poly offers undergraduate and graduate degrees in the emerging disciplines of nanoscience and nanoengineering, as well as cutting-edge nanobioscience and nanoeconomics programs at its Albany site, and degrees in technology, professional studies, and the arts and sciences at its Utica site. The three Utica-based colleges are: College of Arts and Sciences (CAS), College of Engineering (CE), and College of Health Sciences and Management (CHSM). The two Albany-based colleges include: College of Nanoscale Sciences (CNS) and College of Nanoscale Engineering and Technology Innovation (CNETI). For a complete list of degree programs and most recent year enrollments and students served by student type, department, college, and site, see **Table A3.5** in **Appendix 3**.

As the world's most advanced, university-driven research enterprise, SUNY Poly boasts more than \$20 billion in high-tech investments, over 300 corporate partners, and maintains a statewide footprint. The 1.3 million-square-foot Albany NanoTech megaplex is home to more than 3,500 scientists, researchers, engineers, students, faculty, and staff, in addition to Tech Valley High School. Notable visitors to the College of Nanoscale Science and Engineering include **President Barack Obama** (UAlbany, 2012) and **Steve Wozniak, co-founder of Apple Incorporated** (CNSE, 2012).

The Utica facilities are located on more than 400 acres of bucolic rolling hills and expansive meadow grass lands with easy access to extensive recreational opportunities in the nearby six million acre Adirondack Park as well as diverse urban amenities in historic Utica and Rome.

¹ Introduction section content adapted from "About SUNY Poly" at <https://sunypoly.edu/about?cms=webace>.

Among Utica’s varied cultural jewels is its world-class mid-century modern art museum designed by renowned Architect, Philip Johnson (MWPAl, n.d.). SUNY Poly’s Utica site offers a unique high-tech learning environment, providing academic programs in technology, including engineering, cybersecurity, computer science, and the engineering technologies; professional studies, including business, communication, and nursing; and arts and sciences, with degrees and course offerings in natural sciences, mathematics, humanities, and social sciences. Thriving athletic, recreational, and cultural programs, events, and activities complement the campus experience. The Utica site is home to about 2,800 students, faculty, and staff. **Table 1** below shows the combined undergraduate and graduate enrollments and students served trends for each site and the university.

Table 1 SUNY Poly Students Enrolled and Served Trends (Actual and Projected)

Students Enrolled and Served Trends									
Academic Site	Actual Counts			Projected Counts					
	Fall 12	Fall 13	Fall 14	Fall 15	Fall 16	Fall 17	Fall 18	Fall 19	Fall 20
SUNY Poly, Utica Site Enrollments	2373	2484	2738	2737	2756	2790	2862	2931	3000
SUNY Poly, Albany Site Enrollments	n/a	n/a	n/a	56	144	233	322	411	500
SUNY Poly Total Enrollments	2373	2484	2738	2793	2900	3023	3184	3342	3500
UAlbany Students Served at SUNY Poly, Albany Site	n/a	n/a	345	295	220	100	25	20	0
SUNY Poly Total Students Enrolled & Served	2373	2484	3083	3088	3120	3123	3209	3362	3500

Note: SUNY Poly’s Albany Site continues to serve legacy students enrolled at UAlbany. Actual Counts are for the premerger time period. Projected Counts are post-merger.

In addition, SUNY Poly has and continues to develop many instrumental partnerships. For example, SUNY Poly operates the Smart Cities Technology Innovation Center (SciTI) at Kiernan Plaza in Albany, the Solar Energy Development Center in Halfmoon, CNSE’s Central New York Hub for Emerging Nano Industries in Syracuse, the Photovoltaic Manufacturing and Technology Development Facility in Rochester, and the Smart System Technology and Commercialization Center (STC) in Canandaigua. SUNY Poly founded and manages the Computer Chip Commercialization Center (Quad-C) on its Utica site. Recently Governor Cuomo announced that **General Electric Global Research** will be the first major tenant in Quad-C with its Power

Electronics Packaging Facility (FERENCE, 2015). Furthermore, he noted that, in partnership with New York State, SUNY Poly CNSE, and others, **AMS AG** will construct and operate a state-of-the-art wafer fabrication center at the adjacent Marcy Nanocenter site (Guzewich, 2015). Also, SUNY Poly manages the \$500 million New York Power Electronics Manufacturing Consortium, with nodes in Albany and Rochester, as well as the Buffalo High-Tech Manufacturing Innovation Hub at RiverBend, Buffalo Information Technologies Innovation and Commercialization Hub, and Buffalo Medical Innovation and Commercialization Hub.

Vision, Mission, and Values

SUNY Poly's current vision, mission, and values are explicated below. In addition, notes that explain the recent formation of SUNY Poly through a merger of SUNY Institute of Technology and CNSE (formerly affiliated with the University of Albany) are included below.

Vision

SUNY Polytechnic Institute is a vibrant community engaged in the pursuit of scholarship, public service, and intellectual and creative endeavors. We will become a premier polytechnic institution dedicated to improving society by advancing knowledge and its application in many forms including technology and promoting entrepreneurship and economic development.

Mission

The SUNY Polytechnic Institute serves as an intellectually vibrant, creative, and stimulating environment for innovation, education, and outreach that prepares its students to apply basic and applied knowledge to challenges, complexities, and opportunities of a modern technological society.

- Provide an affordable, comprehensive, and integrated range of undergraduate and graduate educational and research programs of the highest quality.
- Provide students with a well-rounded education to prepare them as future leaders in a dynamic and diverse world by demonstrating the interconnectedness of knowledge and cultures and emphasizing the importance of continuous learning.
- Engage in the formulation and dissemination of new discoveries, exciting innovations, stimulating research endeavors, and fundamental and applied knowledge in the science, engineering, technology and related disciplines of the 21st century, through research and creative inquiry.
- Foster economic development and create educational opportunities within New York, the nation, and beyond and promote responsibility and commitment to public service.

- Serve as a leader for innovation and education in the interdisciplinary traditional and emerging disciplines of science, engineering, and technology, from theoretical principles and practical applications.

Values

- **Academic Excellence** through intellectual achievement, collaboration, accomplishment in teaching, research, discovery, and scholarship, and innovative pedagogy both in the classroom and online
- **Inclusiveness** and **Diversity** through respect, accessibility, and actions to embrace difference, experience and thought
- **Transformational Experience** through student-centered curriculum, strong co-curricular environment, and support of personal and professional growth
- **Integrity** by celebrating academic freedom, sustaining academic responsibility, and developing an ethical citizenry
- **Civic Responsibility**
- **Student Success**
- **Faculty, Staff, and Student Lifelong Relationships**

Imperatives and Thematic Strategies

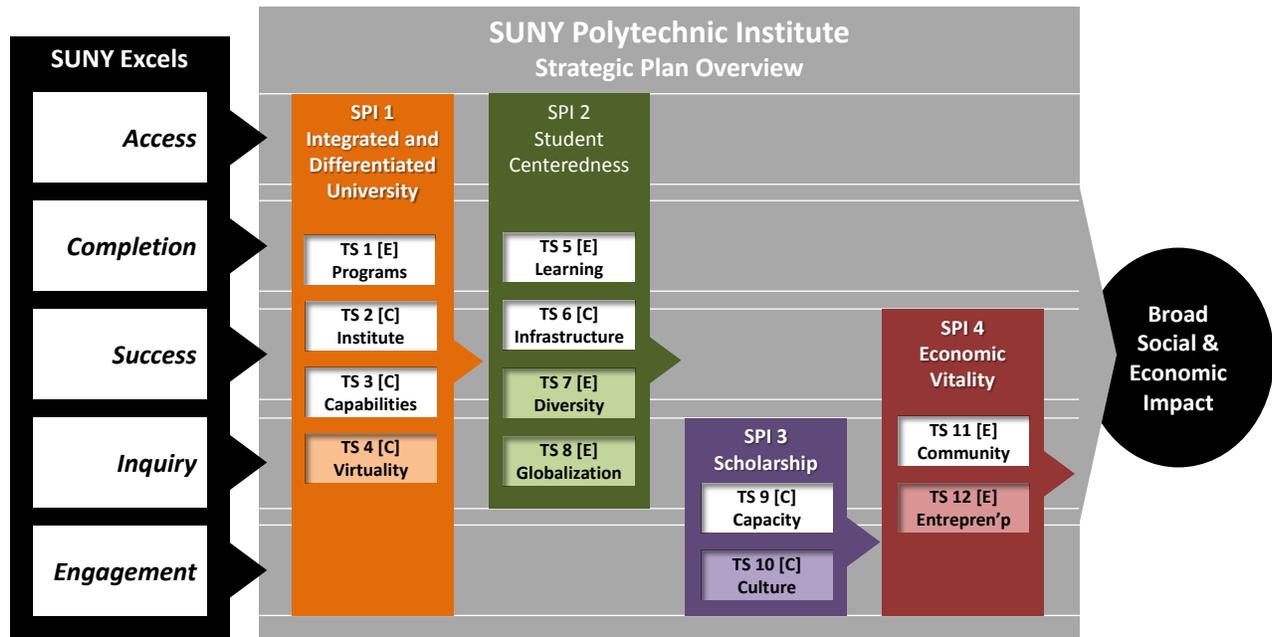
SUNY Poly is committed to bringing innovation in science and technology to New York State and serves as an academic leader in innovation not only with its technology-focused academic programs but also in bringing technology to the fore in its business, health, humanities and arts, and social science programs. SUNY Poly has and continues to combine partnerships with high-tech industries with its professional academic programs to create opportunities for the region. Notable are SUNY Poly's programs in nanoscience and nanoengineering wherein teaching and research are highly integrated with leading industrial companies. To enact this commitment through imperatives and strategies, SUNY Poly recently conducted an extensive strategic planning process summarized in **Appendix 2**. The governing bodies including the Steering Committee (five members), Process Facilitators (two members), and Task Force (30 members representing faculty, staff, and students across both sites). These bodies along with other contributing constituents conducted environmental scanning and developed a SWOT analysis (see **Appendix 3**). Using the SWOT the Task Force then crafted a series of Thematic Strategies (e.g., Big Ideas, see **Appendix 4**) that would enable the new SUNY Poly to realize its strategic vision and mission. This process led to development of four broad institutional Imperatives (e.g., goals) that align with the Thematic Strategies as follows:

1. **SUNY Poly IMPERATIVE 1—*Integrated and Differentiated University***: Our goal is to realize the full potential and advantages of our multi-site merger so that we may become the premier polytechnic institute in New York State. Furthermore, we aim to strengthen our growing national and global reputations as a leading university for technology. This supports all five of the SUNY Excels goals: access, completion, success, inquiry, and engagement. To achieve this imperative, SUNY Poly will pursue the following strategies:
 - Thematic Strategy 1, **Programs: New or Emerging Discipline Programs**
 - Thematic Strategy 2, **Institute: Create Fully Functioning Institution**
 - Thematic Strategy 3, **Capabilities: Strengthen Existing Capabilities**
 - Thematic Strategy 4, **Virtuality**
2. **SUNY Poly IMPERATIVE 2—*Student Centeredness***: Our goal is to shift our processes, structures, and culture so as to holistically optimize student learning experiences and overall success. Although this favorably influences all, it primarily supports SUNY Excels goals: access, completion, success, and inquiry. To achieve this imperative, SUNY Poly will pursue the following strategies:
 - Thematic Strategy 5, **Learning: Engage in Experiential (Applied) Learning**
 - Thematic Strategy 6, **Infrastructure: Develop Student-Centered Infrastructure**
 - Thematic Strategy 7, **Diversity**
 - Thematic Strategy 8, **Globalization**
3. **SUNY Poly IMPERATIVE 3—*Impactful Scholarship***: Our goal is to further enhance our scholarly abilities and funding approaches so as to grow our overall research capacity. This primarily supports SUNY Excels goals: inquiry and engagement. To achieve this imperative, SUNY Poly will pursue the following strategies:
 - Thematic Strategy 9, **Capacity: Develop Human Capacity**
 - Thematic Strategy 10, **Culture: Develop Culture of Resourcefulness**
4. **SUNY Poly IMPERATIVE 4—*Economic Vitality***: Our goal is to collaborate with our diverse constituencies in creating robust and innovative development clusters (based on triple helix model of cooperation) so as to enhance the economic vitality and sustainability of our communities. This primarily supports SUNY Excels goals: success, inquiry, and engagement. To achieve this imperative, SUNY Poly will pursue the following strategies:
 - Thematic Strategy 11 **Community: Community Engagement**

- Thematic Strategy 12 **Entrepreneurship**

For details including descriptions, rationales, and TOWS sources about each Imperative and Thematic Strategy, see **Appendix 4**. In addition, **Figure 1** below indicated the conceptual linkages among SUNY Poly Imperatives, Thematic Strategies, and SUNY System Excels Goals.

Figure 1 Map of SUNY Excels, SUNY Poly Imperatives (SPIs), and Thematic Strategies (TSs)



Notes: *High priority* Thematic Strategies are shown in white boxes. All others are *medium priority*. E = Expansion ideas or those thematic strategies which generally expand SUNY Poly’s profile, guide new projects, lead reputation development, and give SUNY Poly additional distinction in higher education. C = Existing capacity development ideas or those thematic strategies which generally develop existing internal capacity, support reputation building, serve constituents, and attract and retain excellent faculty, staff, students.

To aid in the effective implementation of this strategic plan, the Steering Committee and Process Facilitators have translated the broad imperative goals and thematic strategies into tactical **Institutional Objectives** and performance measures as delineated in **Appendix 1**.

During the strategic planning process, the governing bodies recognized that the thematic ideas generated could be broadly categorized as either those ideas which mostly expand SUNY Poly’s scope or those ideas which generally develop and strengthen SUNY Poly’s existing capacities. Also, during the process, the participating constituents generated many potential ideas for specific new tactical programs and initiatives², especially ideas for implementing the thematic strategies that expand SUNY Poly’s scope and footprint. “Big ideas” are those which enable SUNY Poly to effectively and broadly enact several thematic strategies and, thus, to systemically expand our social impact footprint along multiple dimensions. A few of the most preliminarily promising (pending further vetting) tactical “big ideas” include the following:

1. **National Center of Excellence in Health Sciences and Bioengineering (CoE1)**
 - Nano Health and Safety Consortium

² For a complete list of all submitted ideas for potential tactical projects and initiatives recommend by faculty and staff, see **Tables A4.2 to A4.5** in **Appendix 4**.

- Assistive Device Design and Prototyping Center
- Bioengineering Center
- Health and Technology Institute
- Computational Mathematical Modeling
- 2. Center for Global Advanced Manufacturing (CoE2)**
 - SMARTT Lab Consortium
 - Extreme Speed Machining
 - Advanced Robotics and Automation
 - Additive Manufacturing
 - STEM to STEAM Maker Space and Design Labs
 - Emerging Manufacturing
- 3. Cyber Systems and Security Center (CoE3)**
 - Trusted Device Verification
 - Threat Detection
 - Cyber Security Institute
 - Applied Sociology
- 4. High Impact Learning and Teaching Hub (CoE2)**
 - Corporate Sponsored Projects
 - Project Based Learning
 - Learn by Doing Pedagogy
- 5. Advanced Industrial Modeling and Simulation Center (CoE2)**
 - Computational Materials Science
 - Systems Engineering and Modeling
 - Sustainable Manufacturing
- 6. Center for Social Creativity and Collaborative Design (CoE4)**
 - InnovationChallenge New York (ICNY)
 - Design Culture and Leadership
 - Vibrant and Economically Sustainable Communities Program
 - Creativity and Collaborative Venturing Minor

Given that the multitude of ideas were in varying stages of development and to preserve a degree of *in situ* flexibility (for adapting to shifting and emergent opportunities), the governing bodies have suggested that creators or “champions” who seek internal SUNY Poly funding should develop their ideas to a comparable stage then have them fairly vetted through a competitive review process during the coming academic year or later. To learn more about this development and evaluation process, see **Appendix 1** for a written description in **Table A1.3**.

Moreover, each college has been charged with developing a localized strategic planning process that supports the enactment of this plan. The competitive review process for new ideas will coincide with strategic planning efforts in each college.

It is important to note that although the strategic planning process was not explicitly driven by a particular continuous improvement framework, the facilitators and others were guided by systems thinking perspectives. Park et al. from the Carnegie Foundation echo this notion when commenting on their research findings:

Leaders of continuous improvement organizations bring a learning mindset to the work. They do not believe in silver bullets as a strategy for improvement, instead they focus on establishing disciplined processes for developing, testing, evaluating, and improving its core work streams and programs for building capacity to engage in this type of work.
(Park, Hironaka, Carver, & Nordstrum, 2013: 23)

As a means for verifying the general validity and comprehensiveness of the proposed strategic plan, **Table 2** below delineates the coverage of the Baldrige education criteria for performance excellence (Park et al., 2013: 34) by SUNY Poly’s proposed thematic strategies. As the coverage map indicates, the plan sufficiently covers, in varying degrees, all of the Baldrige criteria. The remaining main body sections of this plan further examine and explicate the four strategic imperatives and thematic strategies through the integrative lenses of critical underlying success factors including **impactful scholarship, educational leadership, academic excellence, and facilities development**. The last section concludes the strategic plan’s main body by discussing **major needs** and **financial strategies**.

Table 2 Map of Baldrige Educational Criteria and Thematic Strategies

Educational Criteria and Thematic Strategies												
Baldrige Educational Criteria	SUNY Poly Thematic Strategies											
	TS 1	TS 2	TS 3	TS 4	TS 5	TS 6	TS 7	TS 8	TS 9	TS 10	TS 11	TS 12
Leadership	●	●			●				●	●	●	●
Strategic Planning and Governance Process	●	●	●			●					●	●
Customer Focus: Students and External Constituents					●	●	●	●			●	●
Workforce Focus: Faculty and Staff	●	●	●	●					●	●		
Metrics: Measurement and Analysis	●	●	●	●	●	●	●	●	●	●	●	●
Operational Process Management		●	●	●		●				●		●
Performance and Results	●	●	●	●	●	●	●	●	●	●	●	●

Impactful Scholarship

... impact inside the Academy cannot be equated with impact outside the Academy. ... Our results point to the need to investigate why some scholars and universities have more impact on outside stakeholders than others do. (Aguinis, Suarez-Gonzalez, Lannelongue, & Joo, 2012:130)

As the quote above suggests, a growing number of institutional scholars and others are concerned about the knowledge–practice divide (Aguinis et al., 2012; Aguinis, Werner, Abbott, Angert, & Kohlhausen, 2010; Bansal, Bertels, Ewart, MacConnachie, & O'Brien, 2012) and, as such, are calling for a broader view of scholarly impact—one that captures research impact not only on other academics within educational institutions, but also on important external constituents. SUNY Poly shares this emergent view and values scholarship that is instrumental and has favorable impact on the communities we serve.

To ensure the highest levels of scholarly impact, SUNY Poly's new organizational structure includes two administrative units dedicated to facilitating quality research across the entire institution: one is Academic Affairs and the other is Research (see **Appendix 5** for the organizational chart). SUNY Poly has steadily grown its scholarly contributions as shown in **Table 3** below. While many of the contributions relate to varying aspects of technology and nanotechnology as is consistent with its overall expertise, SUNY Poly's research portfolio is diverse covering topics ranging from materials for a new class of photodetectors to human rights challenges for refugees to adoption factors for augmented and virtual reality technologies. In addition, much of SUNY Poly's scholarship arises from collaborations with industry and other external partners—this helps to overcome the knowledge-practice divide and provides rich intellectual capital needed to fuel robust innovation and commercialization activities throughout the burgeoning “Nanotech Corridor”.

Table 3 SUNY Poly Scholarly Contributions

Scholarly Contributions (all Faculty)		
Scholarship Type	Annual Counts	
	AY 12-13	AY 13-14
Scholarly Journal Articles	16	86*
Conference Papers and Proceedings	20	103
Invited Lectures	2	82

Note: AY 13-14 scholarly journal articles include both Utica and Albany sites (post-merger). AY 13-14 conference papers, proceedings and invited lectures includes the Utica site and the College of Nanoscale Sciences. AY 12-13 figures are for the Utica site only (pre-merger).

Evidence of the success of this impactful approach to research include IBM’s breakthrough chip with 7 nanometer transistors—developed in partnership with SUNY Poly (Metz, 2015).

IBM announced Thursday that it had achieved a major breakthrough at SUNY Polytechnic Institute in Albany by making computer chips with 7-nanometer transistors — the smallest ever made by the industry. The new chips, which could be twice as fast as today’s most advanced chips, were made entirely at IBM’s 300 mm wafer manufacturing facilities at SUNY Poly. (Rulison, 2015a: ¶1)

Although important for all of SUNY Poly’s imperatives, impactful scholarship is especially relevant for achieving imperatives, SPI 1 Integrated and Differentiated University, SPI 3 Impactful Scholarship, and SPI 4 Economic Vitality. In particular, impactful scholarship is crucial for implementing thematic strategies TS 1, TS 2, TS 3, TS 4, and TS 9-12. Each are discussed in greater detail below. Impactful scholarship and these particular thematic strategies directly support all SUNY Excels goals: Access, completion, success, inquiry, and engagement.

As described above, thematic ideas are categorized as either those ideas which mostly expand SUNY Poly’s scope or those ideas which generally develop and strengthen SUNY Poly’s existing capacities. One objective is to enhance scholarly abilities and funding approaches so as to grow our overall research capacity. Another objective is to generate multidisciplinary multi-PI projects by establishing collaboration within SUNY Polytechnic faculty, as well as with the Center for Semiconductor Research (CSR). Accordingly, the discussions below are framed by this typology.

Investment in Expansion Thematic Strategies

Expansion ideas are those thematic strategies which generally expand SUNY Poly's profile, guide new projects, lead reputation development, and give SUNY Poly additional distinction in higher education. Impactful scholarship is most pertinent for expansion themes, TS 1, 11, and 12 as follows:

- **Thematic Strategy 1, Programs: New or Emerging Discipline Programs:** Develop new or individualized programs of study that cross disciplines, allowing for rapid response to emerging demands. These programs may focus on education, research and/or service to community.
- **Thematic Strategy 11 Community: Community Engagement:** Have greater impact on society by engaging with local communities & strengthening the K-16 pipeline. Focus applied scholarship on community projects that benefit local society and give students experience with real life situations.
- **Thematic Strategy 12 Entrepreneurship:** Develop and support entrepreneurship skills in faculty, staff, and students and incentivize commercialization of novel products and approaches. Provide opportunities for students to learn from local entrepreneurs and work on real life business issues. Encourage students & faculty to invent products.

As described previously, all tactical ideas for new programs and initiatives will be vetted through a competitive review process during the coming academic year or later. To learn more about this development and evaluation process, see **Appendix 1**. All submitted ideas for potential tactical projects and initiatives recommend by faculty and staff are listed in **Tables A4.2 to A4.5** in **Appendix 4**. When commenced, the vetting process will require proposals to be rigorously reviewed, verifying resources needed, demonstrating alignment with institutional vision and mission, and demonstrating contributions expected both for SUNY Poly and its students.

SUNY Poly is making significant progress towards implementing thematic strategy 1 and addressing emergent market demand. For example, three new programs are currently being introduced:

- **BS Interactive Media and Game Design** (to be located in the College of Arts and Sciences, Department of Communication and Humanities)
- **MS System Engineering** (to be located in the College of Engineering, Department of Engineering)
- **PhD Nanobioscience** (to be located in the College of Nanoscale Sciences)

In addition, SUNY Poly is starting the planning process that will lead to two other new programs: **BS Computer Science** and **BS Information Systems** (both to be located in the College of Engineering, Department of Computer and Information Sciences).

As a part of thematic strategy 1, SUNY Poly has recently achieved University Center status within the SUNY System. This designation makes it the fifth official research university with the system. Furthermore, SUNY Poly aims to become a DRU (Doctoral/Research Universities) as designated by the Carnegie Foundation. This will require that the institution grant “research” doctoral degrees³ to 20 individuals each academic year (The Carnegie Classification of Institutions of Higher Education, 2011). To meet this objective, SUNY Poly envisions expanding enrollments in existing doctoral programs while launching innovative doctoral degrees in embryonic fields. For example, training students in the principles, practices and research paradigms of nanoscience to prepare them for interdisciplinary careers in research, development and education will produce a new generation workforce capable of driving innovations. See **Table 4** below for additional detail. In addition, total enrollments are expected to reach just a bit more than 3500 around the 2020 and later time period. Total degrees granted are expected to exceed 700 during that time period. Undergraduate enrollments are expected to represent approximately 74% of total enrollments whereas Graduate Master’s & CAS enrollments will be about 23% and Doctoral enrollments will be around 3%. Enrollment growth has recently occurred primarily in new degree programs. To succeed both in achievement of enrollment goals and in the number of degrees awarded, SUNY Poly will need to reinvigorate existing degree programs as well.

Table 4 SUNY Poly Enrollments, Students Served, and Degrees Granted Trends By Program Level

Enrollments, Students Served, and Degrees Granted Trends										
Program Level	Act.	Projected Counts								
	Fall 14	Fall 15	Fall 16	Fall 17	Fall 18	Fall 19	Fall 20	Fall 21	Fall 22	Fall 23
Undergraduate Programs										
Enrollments	2035	2082	2150	2235	2353	2468	2580	2600	2600	2600
Other Students Served	179	150	115	60	15	15	0	0	0	0
Degrees Granted	423	424	440	458	470	497	508	510	510	510
Graduate Master’s and CAS Programs										
Enrollments	703	710	730	745	764	783	805	810	810	810
Other Students Served	39	30	15	0	0	0	0	0	0	0
Degrees Granted	176	176	182	187	195	203	207	210	210	210
Graduate Doctoral Programs (Research PhDs)										
Enrollments	0	1	20	43	67	91	115	120	120	120

³ Research doctoral degrees **exclude** professional practice doctoral degrees such as the JD, MD, PharmD, DPT, etc.

Other Students Served*	127	115	90	40	10	5	0	0	0	0
Degrees Granted	0	0	0	0	1	9	15	18	20	20
Total Enrollments										
Total Enrollments	2738	2793	2900	3023	3184	3342	3500	3530	3530	3530
Total Students Served	345	295	220	100	25	20	0	0	0	0
Total Degrees Granted	599	600	622	645	666	709	730	738	740	740

Note: SUNY Poly’s Albany Site continues to serve legacy students enrolled at UAlbany. In addition, PhD projections do not include other practitioner focused doctoral programs that are currently being conceptualized. *Teach out of UAlbany students

Fueling Economic Development

The Interstate 90 passageway or “Nanotech Corridor” that stretches from Albany through the Mohawk Valley out to Buffalo is striving to rebuild its once prosperous economy after decades of loss in manufacturing, defense, and other sectors. The regional focus is in developing nanotechnology, other innovative high-technology, financial, service, education, and healthcare sector employment. To further advance the Nanotech Corridor, SUNY Poly’s new organizational structure (see **Appendix 5**) includes an administration unit that focuses on economic outreach: Business Development and Economic Outreach.

For example, in the Mohawk Valley, home to the Utica site, the largest regional employment sectors have been government (25%); education and health services (18%); trade, transportation and utilities (17.4%); manufacturing (9.7%); professional services (7%); leisure and hospitality (6.5%); and financial services and insurance (5%) (SUNYIT, 2012b: 14). The most significant industries are construction; manufacturing; trade, transportation and utilities; professional and business services; educational services; and health care and social assistance. Significance is determined by factors such as job counts, wage levels, job growth and employment projections. The most significant jobs for SUNY Poly graduates are accountants and auditors; computer programmers; registered nurses; and medical and health services managers. It is worth noting that research (AFRL), biomedical, and telecommunications are significant high-tech employers (SUNYIT, 2012b: 15).

Thematic strategies 11 and 12 will enable SUNY Poly to further develop and bring to maturity its own version of an industry, university, government collaboration or “Triple Helix” economic development model that serves the greater Upstate New York region. Development of STEM pipeline and related innovative scholarship that feeds innovation, commercialization, and supportive government policies, will enable its communities to become more creative, vibrant, and economically sustainable. As Rothwell reports,

More STEM-oriented metropolitan economies perform strongly on a wide variety of economic indicators, from innovation to employment. Job growth, employment rates, patenting, wages, and exports are all higher in more STEM-based economies. ... Concentrations of these jobs are also associated with less income inequality. (Rothwell, 2013: 1)

Previous research reveals that young community members tend to outmigrate when they perceive few or limited career opportunities (Petrin, Schafft, & Meece, 2014). However, research suggests that experiential learning activities embedded in a larger Triple Helix collaboration, will help to stem the “brain drain.” Pilot data indicate that participants in such opportunities gain greater entrepreneurial self-confidence and report being more likely to remain in their local communities (Edgell, 2015; Jonsson, Baraldi, & Larsson, 2015).

Sustaining Existing Programs

In addition to developing new capacities, SUNY Poly realizes the equal importance of maturing existing capabilities. Existing capacity development ideas are those thematic strategies which generally develop existing internal capacity, support reputation building, serve constituents, and both attract and retain excellent faculty, staff, and students. Impactful scholarship is most pertinent for capacity development themes, TS 2, 3, 4, 9, and 10 as follows:

- **Thematic Strategy 2, Institute: Create Fully Functioning Institution:** Complete the process of creating a single SUNY university to serve NYS high tech and high-demand professionals. SUNY Poly will support excellence in research, teaching/learning and service.
- **Thematic Strategy 3, Capabilities: Strengthen Existing Capabilities:** Develop clear plan and structure for SUNY Poly such that constituent needs are supported.
- **Thematic Strategy 4, Virtuality:** Reduce dependence on physical location and increase collaboration through technology-mediated communication.
- **Thematic Strategy 9, Capacity: Develop Human Capacity:** Develop SUNY Poly faculty, staff, and students so that they are able to contribute to institutional goals, especially expanding research capacity.
- **Thematic Strategy 10, Culture: Develop Culture of Resourcefulness:** Develop common understanding that everyone can and should attract resources to support SUNY Poly endeavors.

SUNY Poly has been working on a number of tactical programmatic capacity development activities. During the past year, SUNY Poly restructured from departments to colleges to allow greater focus for capacity development. In addition, it held several meetings that brought faculty from both sites together to discuss how they might address several aspects of the merger and collaborate on research.

Recently the senior administration sent proposals to the SUNY system for “high needs” funding areas. These proposals are driven by “high demand”—the projected growth in annual above average number of openings for a particular occupation in New York State as determined by EDEPS (EDEPS, 2015). The following are the high demand and high need areas identified by SUNY Poly to date:

- ***Nursing; Health Informatics;***
- ***Computer Science;***
- ***Information Systems;***
- ***Network and Computer Security;***
- ***Telecommunications;***
- ***Applied Computing;***
- ***Health Care and Health Promotion; and***
- ***Social and Behavioral Care Casework***

Table 5 below identifies higher education appropriate EDEPS disciplines (aka, units of analysis) which offer occupations that meet the combined high skill, high wage, and high demand criteria (HSWD). To learn more about HSWD occupations at the national level, go to http://www.edeps.org/HSWD/HighSkillWageDemand_US.aspx.

Table 5 EDEPS NYS Disciplines: Combined High Skill, Wage, and Demand (HSWD)

EDEPS NYS HSWD Units of Analysis (alphabetical order)		
<ul style="list-style-type: none"> • Accounting • Adult and Continuing Education • Advertising/Public Relations • Architecture • Business Management and Administration • Civil Engineering • Communication Electronics • Communication Technologies • Communications, Journalism and Broadcasting • Computer Engineering • Computer Systems • Construction Management • Dentistry • Design • Diagnostic Medical Sonography • Dietetics/Nutrition • Digital Graphics • Dramatic Arts (Theater/Film) • Educational Administration • Electrical/Electronic Engineering • Elementary Education • Fashion Design • Finance and Financial Management Services 	<ul style="list-style-type: none"> • Financial Planning • Fire Safety • Human Resources Management • Industrial Engineering • Instructional Design • Insurance • Interior Design • Interpreter/Translator • Legal Assisting • Legal Services • Liberal Arts and Humanities • Library Science • Line Supervision • Marketing Management and Research • Mechanical Engineering • Medical and Clinical Laboratory Technologists • Medical Radiologic Technology • Medical Science • Medical Services Management • Medicine • Meeting and Event Planning • Miscellaneous Arts Programs • Miscellaneous Management and Management Support Occupations 	<ul style="list-style-type: none"> • Miscellaneous Professional Occupations • Miscellaneous Utility Operators • Music • Occupational Therapy • Pharmacy • Physical Therapy • Physician Assisting • Preschool Education • Psychology • Public Administration • Purchasing • Quantitative Business Analysis • Real Estate • Respiratory Therapy • Sales • Secondary and Vocational Education • Social Services • Social Work • Special Education • Speech Pathology/Audiology • Student Counseling • Veterinary Medicine

In addition, SUNY Poly is concerned about the capacity development needs for programmatic areas that are either required as components for HSWD degree programs or directly meet HSWD criteria and suffer quality challenges. SUNY Poly has been very successful in efforts to support additional faculty members in high-need workforce areas. As **Table 5** indicates, the Department of Labor has identified areas of employment with high, unfilled demand. Not surprisingly, many of those high-need areas are aligned exactly with the education and skills of SUNY Poly graduates. To a significant extent, the enrollment growth has been enabled by such supplemental budget revenue. The predicate of such funding implies that after a few years of support, enrollment growth will be sufficient to sustain the additional faculty positions. SUNY Poly has enjoyed significant enrollment growth during the past three years and expects to maintain that growth. Gaining high-needs funding will be extremely important in the next few years. Overall, such funding will enable enhanced scholarship funding, full-time department chairs, sufficient classroom space, faculty that are doctoral-prepared, and robust laboratory spaces with state-of-the-art equipment.

Educational Leadership

The results of this study show that the use of experiential learning activities has a positive, significant effect on student learning and the student's perception of learning. Many have hypothesized this result, while others simply performed the exercises on an "act of faith" (Gentry, et al., 1998, p. 64). This information provides the necessary empirical evidence that is needed to encourage others to include more active forms of curriculum delivery. (Burch et al., 2014:282)

Consistent with a growing body of empirical literature (Burch et al., 2014; Danahy et al., 2014; Gentry, Commuri, Burns, & Dickinson, 1998; Kolb, 2014), SUNY Poly's institutional philosophy of education focuses on creating innovative curricula that provide students with highly immersive and engaged experiential learning approaches that heighten learning and capability. These methods include a variety of experiential techniques including project-based learning, applied learning, field studies, simulations, case studies, evidence-based learning, among other methods. SUNY Poly's new organizational structure (see **Appendix 5**) includes three administrative units dedicated to achieving high levels of student centeredness and innovative curriculum: Academic Affairs, Student Affairs, and Enrollment Management.

Regarding comparable or peer institutions, SUNY Poly cannot easily be categorized or grouped with comparable institutions, especially since it is a newly formed institution. However, as **Table 6** below indicates SUNY Poly does share aspects of purpose, vision, and research focus with a variety of peer institutions within and outside of the Middle States Region. These range from state schools such as Pennsylvania State University to private universities such as Worcester Polytechnic Institute. Aspirational institutions include MIT, Caltech, CMU, and Stanford University.

Table 6 SUNY Poly Peer and Aspirational Institutions

Peer and Aspirational Institutions		
<p>Peers in the Middle States Region</p> <ul style="list-style-type: none"> • <i>Clarkson University</i> • <i>Rensselaer Polytechnic Institute</i> • <i>Polytechnic Institute of New York University</i> • <i>Stevens Institute of Technology</i> • <i>New Jersey Institute of Technology</i> • <i>Drexel University</i> • <i>Rochester Institute of Technology</i> • <i>George Washington University</i> • <i>Cornell University</i> • <i>Columbia University</i> • <i>Pennsylvania State University</i> 	<p>Peers Outside of the Middle States Region</p> <ul style="list-style-type: none"> • <i>Milwaukee School of Engineering</i> • <i>California Polytechnic State University</i> • <i>Kettering University</i> • <i>Worcester Polytechnic Institute</i> • <i>Missouri University of Science and Technology</i> • <i>Michigan Technological University</i> • <i>University of Arizona</i> • <i>Northeastern University</i> 	<p>Aspirational Institutions</p> <ul style="list-style-type: none"> • <i>Massachusetts Institute of Technology</i> • <i>California Institute of Technology</i> • <i>Carnegie Mellon University</i> • <i>Stanford University</i>

Educational institutions are being held accountable for a broad range of student learning and development outcomes. The SUNY Poly Institutional Assessment Model (IAM) evaluates both institutional effectiveness and student learning outcomes. The IAM comprises five major areas: Institutional Growth and Resources; Campus Life, Culture and Environment; Academic Quality; Community Engagement; and Administrative Effectiveness. Each of the areas within the model includes individuals from campus units and services collectively known as the Institutional Effectiveness and Student Learning Committee.

The assessment activity in each area corresponds to the goals and objectives specified; all areas' goals and objectives are mapped to both the mission/vision of SUNY Poly and the strategic plan. Corresponding assessment activities are designed to measure the goals and objectives. Student learning outcomes are gathered by the Academic Quality committee. A rotation schedule for general education, the majors, learning center, library, accreditation, and online learning are reviewed monthly. General education goals and objectives along with the goals and objectives for the majors are all specified.

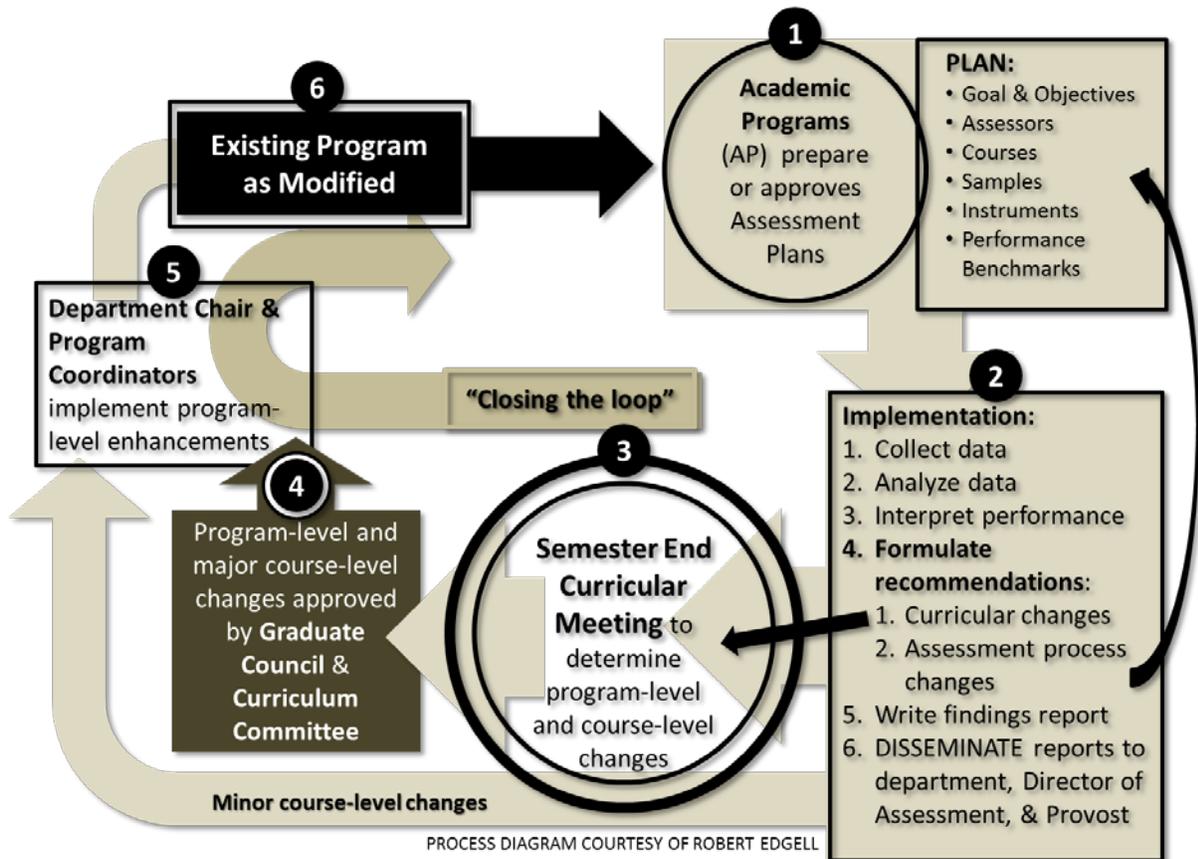
The Institutional Effectiveness assessment is guided by a modified version of the Carnegie Institute guidelines. Those guidelines specify a set of questions designed to assess the areas for effectiveness and efficacy as it relates to SUNY Poly's overall functioning. The areas either have already used the questions to initiate their assessment or are applying the questions to each of the areas.

Although important for all of the imperatives, adopting a leadership stance towards educational pedagogy and curriculum is essential for achieving imperative, SPI 2, Student Centeredness. SUNY Poly aims to proactively shift its processes, structures, and culture so as to holistically

optimize student learning experiences and overall success. To achieve this imperative, SUNY Poly is implementing thematic strategies TS 5, TS 6, TS 7, and TS 8 as discussed in detail below. Although educational leadership and these particular thematic strategies favorably influence all SUNY Excels goals, they primarily support access, completion, success, and inquiry. For example, the SUNY System completion goal calls for growing degrees awarded annually from 100,000 currently to approximately 150,000 by 2020. SUNY Poly aims to make a significant contribution to this overall growth goal by increasing enrollments as well as retention and graduation rates as discussed below.

As described above, SUNY Poly pursues a number of approaches to ensure high educational quality. In addition, SUNY Poly's Office of Institutional Research monitors and tracks a comprehensive selection of data useful for strategic planning, continuous improvement, and student-centeredness initiatives. Also, the Academic Quality committee aims to better support accreditation and continuous improvement through tactical efforts that significantly institutionalize and enhance Assurance of Learning (AOL) processes across all programs. This committee has moved to more comprehensively deploy AOL curricular assessments across all programs and to use the evidence generated for greater "closing of the loop" continuous improvement activities at both the program- and course-levels. This includes the implementation of a standardized AOL approach supported by an automated data collection and analysis system. **Figure 2** conceptually delineates this formalized process.

Figure 2 SUNY Poly Conceptual AOL Process



As evidence of SUNY Poly’s effective leadership through quality education, it holds a variety of accreditations and has received various commendations. In addition to the **Middle States Commission on Higher Education (MSCHE)** umbrella accreditation for the entire university, several programs are either fully accredited by their respective discipline’s leading accreditation body or have accreditation’s pending. **Table 7** below delineates these programs and their accreditations. Furthermore, it has received commendations in recognition of the high value its affordable, yet quality programs provide to students. **Table 8** below describes a few of these recent commendations.

Table 7 SUNY Poly Program Accreditations

Specialized Accreditations by Program			
Site	College, Department, and Program	Accreditation	
		Body	Status
Utica Site			
College of Health Sciences and Management			
	Business Management, Accounting and Business: All programs	The Association to Advance Collegiate Schools of Business (AACSB)	Active
	Nursing: All programs	The Commission on Collegiate Nursing Education (CCNE)	Active
	Health Information Management: All programs	The Commission on Accreditation for Health Informatics and Information Management Education (CAHIIM)	Active
College of Engineering			
	Engineering Technology: All programs	The Accreditation Board for Engineering and Technology (ABET): Engineering Technology Accreditation Commission (ETAC)	Active
	Engineering: Electrical and Computer Engineering Program	The Accreditation Board for Engineering and Technology (ABET): Engineering Accreditation Commission (EAC)	Active
	Engineering: Mechanical Engineering and Civil Engineering Programs	The Accreditation Board for Engineering and Technology (ABET): Engineering Accreditation Commission (EAC)	Awaiting Initial Review
	Computer and Information Sciences: preparing to launch two new programs in Computer Science and Information Systems	The Accreditation Board for Engineering and Technology (ABET): Computing Accreditation Commission (CAC)	Preparing Accreditable programs
Albany Site			
College of Nanoscale Engineering and Technology Innovation			
	Nanoengineering Program	The Accreditation Board for Engineering and Technology (ABET): Engineering Accreditation Commission (EAC)	Awaiting Initial Review

Table 8 SUNY Poly Select Commendations

Select Commendations by Program			
Site	College, Department, and Program	Commendation	
		Accolade or Award	Source
Utica Site			
All Colleges			
All Departments and Programs	Top 25 Public Schools: “Regional Universities – North”	“America’s Best Colleges” by U.S. News & World Report	
	Top 25 Public Schools: “Regional Universities – North”	“America’s Best Colleges” by U.S. News & World Report	
	35 th in the Nation: “Best Colleges for the Money”	College Factual	
	3 rd among “New York Colleges with Most Affordable Online Degree Programs”	AffordableCollegesOnline.org	
	3 rd among “New York Colleges with Most Affordable Online Degree Programs”	AffordableCollegesOnline.org	
	12 th among Top Colleges in NYS for Future Members of the Armed Services	The College Database	
	2014 CASE Educational Fundraising Award for Overall Improvement Among Public Comprehensive Institutions Across the Country	Council for Advancement and Support of Education	
	2014 Certificate of Honor for Environmental Stewardship	U.S. Green Building Council New York Upstate Chapter	
College of Health Sciences and Management			
Business Management, Business and Health Information Management: <ul style="list-style-type: none"> • MBA Technology Management with a concentration in Health Services Management • MBA Technology Management with a concentration in Health Informatics • BS in Health Information Management 	5 th for Most Affordable Selective Colleges for Healthcare Management	Top Master’s in Healthcare Administration	
Business Management, Accounting: Master of Science in Accountancy	3 rd for Best Online Masters in Accounting Program, Students Before Profit Award	Nonprofit Colleges Online	
	3 rd Nation-wide of 45 Best Online Master's Programs	Accounting Degree Review	

Albany Site

Colleges of Nanoscale Science and Engineering

All Programs	4 th in Engineering Research and Development Spending Nationwide	National Science Foundation
	1 st for Corporate Research and Development Spending Nationwide	National Science Foundation

The subsections below provide additional detail and discussions about particular leadership strategies and tactics for student success and experiential learning.

Student Success

There is a consensus that interactive as opposed to didactic teaching improves academic success and promotes the inclusion of learners who might feel like outsiders. Student-centered learning conceives of students as playing a more active role in their learning processes. Active learning is often associated with experiential, problem-based and project-based learning, and other forms of collaborative learning, and less reliance on the large lecture format. (Crosling & Heagney, 2009: 13)

The greater SUNY System leadership has identified multiple dimensions that positively correlate with student future success. These include ease of courses access, heightened degree program alignment with shifting market requirements, increased experiential and engaged learning, intensified international and multi-cultural experiences, and greater financial literacy (SUNY, 2015). Moreover, SUNY posits that student success extends beyond completion to transfer and persistence and beyond long-term earnings viability to life-long career satisfaction.

To enhance success rates for students, SUNY Poly is implementing the following thematic strategies:

- **Thematic Strategy 6, Infrastructure:** Develop Student-Centered Infrastructure: Recognize and provide infrastructure required for transformative student experience.
- **Thematic Strategy 7, Diversity:** Align institutional demographics with emerging U.S. trends and welcome diverse traditions and ideas.
- **Thematic Strategy 8, Globalization:** Increase efforts to provide global perspective through exchanges and invited guests.

SUNY Poly has made significant institutional, programmatic, and services progress towards becoming a more student-centered, diverse, and globally focused institution. For profiles of current students and alumni who have achieved “student success”, see the Academic Excellence section below.

At the institutional level, SUNY Poly is investigating new structures and processes that support student success. For example, during AY 14-15, our Utica site graduate council began the

process of benchmarking our graduate education infrastructure against those of exemplar institutions. The aim of this investigation is to recommend enhancements that will make graduate education programs more effective and appealing. Also, SUNY Poly has sponsored administrative staff exchanges with other institutions outside the US. Faculty and staff are currently investigating opportunities for student and faculty exchanges. Furthermore, the newly formed colleges are developing several support mechanisms for students. For example, in the College of Health Sciences and Management, a new Director of Recruitment and Student Success will work to ensure the satisfaction and success of students enrolled in all CHSM programs. In the College of Arts and Sciences, the Interdisciplinary Studies Program (IDS)⁴ allows students with their diverse interests to rigorously integrate their own individualized programs of study.

SUNY Poly is also investing in new systems and technologies. To enhance students' degree planning activities and enable more robust advising, SUNY Poly has implemented the SUNY system's customized Degree Works technology. To learn more, go to:

<https://www.suny.edu/impact/education/degree-planning-tools/>. In addition, SUNY Poly uses the IDEA Student Ratings of Instruction to enable continuous improvements in teaching effectiveness and, as such, student satisfaction. In addition, SUNY Poly is now promoting the use of SUNY System's Smart Track® resources through the "First Year Seminar" to improve the financial literacy of students:

Smart Track® resources cover the spectrum of personal financial literacy, from budgeting, responsible credit card use and avoiding identify theft to the basics of banking, borrowing and working through college. Our online learning center demystifies college finance through loan payment estimators and strategies to responsibly borrow and repay funds. (SUNY, n.d.: ¶1)

In terms of outside-the-classroom student-focused programming, SUNY Poly is embracing design thinking, innovation, and interdisciplinary approaches to fully engage students. Currently, the SMARTT Lab Makerspace committee, with considerable input and feedback from students and other constituents, is developing plans for an interdisciplinary maker-based learning laboratory. The Poly Fab Learning Laboratory is a student-center infrastructure "STEAM (STEM + Arts) initiative built around the principles and practices of the 'maker movement,' a community-based movement that uses emerging and accessible technologies to cultivate creativity, innovation, and deep learning." (Lee, Confer, & Abdallah, 2013: 1)

Other student-centered programming includes InnovationChallenge New York (ICNY), an initiative that combines the best of business modeling and innovation with collaborative design

⁴ The Interdisciplinary Studies Program implements a core curriculum that models the methods and practices of integrative thinking, providing students with the intellectual tools to integrate their own individualized programs of study. This approach builds into the curriculum the recommendations of recent studies calling for the need to provide students with structured learning experiences that engage them in the practices of addressing complex subjects, topics, and problems through interdisciplinary inquiry and integrative thinking.

methodologies developed and used by Architects, designers, and urban planners. The most recent ICNY two-day event collaboratively engaged students to generate ideas for making the Cayan Library more student-focused and effective in an era of digitization.

Most programs, such as nursing with required practica and engineering technology with senior design projects, are immersed in applied learning activities. Additionally, the number of internships has increased sharply.

SUNY Poly is continuously developing services that better suit evolving student needs. For example our Albany site recently launched “NanoBytes” Online Retail Store. This new website offers high-tech brands of clothing items, academic supplies for students and smart gift options to meet growing demand.

Commitment to Diversity and Globalization

Diversity and access to education are critical factors in the mission of SUNY overall and of particular importance to SUNY Poly, given its location and traditional demographic profile. The development of a campus culture and academic programs that embrace diversity is essential to SUNY Poly’s mission. Occupational choice involves a complex set of decisions, people, skills, and timing. Decisions to enter STEM and healthcare fields can be easier for students when they have accurate expectations, are familiar with the rewards, and have frequent and positive contact with role models. SUNY Poly provides a hands-on environment with small class sizes, low faculty-student ratios, and a welcoming atmosphere where students from varied backgrounds have the opportunity for this kind of contact and experience.

Demographic changes are impacting how and where SUNY Poly recruits new students, faculty, and staff. For example, in the 2010 Census, 10.5 percent of Utica residents indicated that their ethnicity was Hispanic or Latino, compared to 4.6 percent in Oneida County and 17.6 percent in New York State (U.S. Census Bureau, 2010). According to the National Center for Education Statistics (NCES, 2015a), college enrollment for 2012 had reached approximately 20.6 million, up by 24 percent from 16.6 million in 2002. This increase was mostly driven by full-time enrollment which rose by 28 percent while part-time students only rose only 19 percent during that same period. College enrollment is expected to further increase by 15 percent from 2010 to 2021, setting new records (NCES, 2015b). NCES predicts that during the period 2012 to 2023, the increase in the number of students 25 years of age or higher will be 20 percent, significantly larger than the projected growth rate of 12 percent for traditional-aged students under 25 years of age (NCES, 2015a).

From 1976 to 2012, NCES reveals that nationally, Hispanic students increased from 4 to 15 percent, Asian/Pacific Islander students increased from 2 to 6 percent and African American students increased from 10 to 15 percent. During this period, White students decreased from 84 to 60 percent (NCES, 2015a). To maintain alignment with shifting demographics, SUNY Poly aims to increase its outreach to diverse and global populations. For a list of possible diversity and globalization ideas, see **Table A4.3** in **Appendix 4**.

Improving Graduation Rates

Completions. Initiatives undertaken to increase enrollment include new degree programs in science and engineering. In addition, technological advancements have enabled five graduate programs and an additional undergraduate program (Health Information Management) to be offered nearly completely online. Orientation for all online graduate programs is available and an initiative to develop a similar online program for undergraduate programs is underway. Together with the Nanoscale Science and Nanoscale Engineering degree programs resulting from the combined SUNY Polytechnic Institute sites, online programs plus science and engineering programs are showing significant enrollment growth, which will drive degree completions (the number of degrees awarded).

Currently SUNY Polytechnic Institute offers 46 UG/G programs, B.S. through Ph.D. Six more programs are in various stages of the curriculum development/approval process. In addition to efforts designed to increase the number of entering students, SUNY Polytechnic Institute is focusing on increasing retention and graduation rates – moving students through the pipeline faster by an investment in improved advising and more effective and efficient learning support. One goal is to get more students involved in undergraduate research with supportive mentors, which, has been shown to increase student persistence in STEM as well as other majors.

SUNY Polytechnic Institute has committed to increasing its first-to-second year retention to 85 percent. This goal is comparable to the best performances in our sector and the performance of our aspirational peers. We anticipate an increase in six-year graduation rates from 43 to 60 percent and in four-year graduation rates from 24 to 32 percent due to our initiatives in advising and mentoring. An increase in the number of advanced certificate programs offered is also expected. SUNY Poly estimates an overall increase in the number of degrees granted as follows in **Table 9**:

Table 9 SUNY Poly Total Degrees Granted

Total Degrees Granted		
Degree Type	Annual Counts	
	Actual AY 14-15	Projected AY 20-21
Undergraduates Degrees	423	508
Graduate Degrees - Masters	173	200
Graduate Degrees - Doctorate	0	15
Certificates	3	7
Total	599	730

Completion Goals: Increase first year retention to 85 percent; increase six year graduation rate to 60 percent; increase number of graduates to 730.

Student Achievement / Success (SAM). Persistence is developed at SUNY Polytechnic through collaboration between the Director of Student Success and the Director of the Learning Center. An Academic Warning process is utilized whereby students in academic difficulty are notified, required to discuss progress with Learning Center personnel, and encouraged to take advantage of academic support available to them through tutors. Follow-up takes place during the semester. In 2014, the Mathematics faculty at the Utica-site implemented a mathematics placement test for all incoming freshmen to more effectively assign students to the appropriate level of mathematics. Further, the Director of Student Success oversees the Early Warning System which notifies students at approximately the fourth week of classes regarding negative behavior which may translate into academic difficulty.

In the fall of 2014, there were 162 students on academic warning; for the fall of 2015, there were 126 students on academic warning. Based upon the above mentioned initiatives, success has been achieved with returning freshmen: 89 were on academic warning fall 2014, but this number was reduced in that class's sophomore year to 37 fall 2015.

While academic advising resides primarily with the faculty, the Director of Student Success responds to Degree Works questions, scheduling issues, and other academic advisement issues as well as assisting students with institutional paperwork and academic petitions.

At the Colleges of Nanoscale Science and Nanoscale Engineering, the Director of Advisement advises all undergraduate students, who are provided with a "MAP" detailing the courses they need to take each semester. At the graduate level, each MS and PhD student is assigned a faculty advisor until such time as the student secures a Research Advisor. Graduate students are provided with detailed lists of the various curricular "tracks" open to them. Faculty at the Albany site are urged to inform personnel in Student Affairs as soon as possible if they see a student floundering, missing classes, etc. At the end of each semester all students' records are reviewed by personnel in Student Affairs not only to see if someone needs to be placed on academic probation but also to note disparities such as dramatic decline in a student's performance the previous semester. In fall 2015, the Early Warning system at the Utica site was extended to cover students at the Albany site and this should also help with student success, retention and graduation rates.

For 2014-15, the Utica site granted the following degrees: BA/BS 423; MS 173; CAS 3 = 599 total. Undergraduate 6 year completion rate was approximately 43 percent. The 2020 target is 60 percent. Concurrently, SUNY Polytechnic Institute seeks to reduce the Ph.D. completion time to an average of no more than 5 years.

Transfer of undergraduate students to SUNY Polytechnic Institute is robust. A fulltime transfer coordinator works with the Deans and Program Chairs to maintain transfer articulation tables

and facilitate transfer credit support from major feeder schools. All articulation agreements are being renewed and new agreements developed.

SAM Goal: Increase number of graduates to 730 per year.

Graduation Rates. SUNY Polytechnic Institute's commitment to increased graduation rates centers upon its commitment to improved retention and improved student support. Key activities and initiatives include: full implementation of Degree Works; campus-wide adoption of the Early Warning System; improved follow-up with students by monitoring data from TutorTrac; better interventions for students on Academic Warning.

We anticipate a substantial increase in retention and an increase in 6 year graduation rate from 43 percent to 60 percent by 2020.

SUNY Polytechnic Institute began full implementation of Degree Works in fall 2013. This degree audit system assists students by making degree requirements and progress toward completion more transparent. The Student Success office has provided assistance to faculty members and individual students with regard to interpretation of the audit data. Students are becoming more pro-active about checking these audits and verifying progress with their advisors. The Registrar reports that Degree Works has allowed for easier clearance of graduates.

Graduation Goal: Increase graduation rate to 60 percent.

Time to Degree. Typical polytechnic institutes/universities have relatively low 4 year rates (ASEE). SUNY Polytechnic Institute presently stands at 25 percent and seeks to increase to 30 percent. SUNY Polytechnic Institute has made a commitment to increase its 6 year rate to 60 percent which compares favorably to other polytechnic institutes.

At present, SUNY Polytechnic Institute does not have any guarantee programs (finish in 4); however, we are experiencing a greater number of incoming freshmen bringing advanced placement AP and college credit earned while still in high school. It is expected that the 4 and 6 year completion rates will experience increases as a result.

In addition, SUNY Polytechnic Institute has three accelerated BS/MS programs which help students with earlier transition into graduate study.

Every major program has a Practicum and/or a Capstone experience as part of its program core. These introductions to the real world projects assist students with career opportunities.

Time to Degree Goal: Improve time to degree to 4.25 years.

In closing, other retention and graduation strategies such as deploying full-time advisors maybe considered at a future date (McFarlane, 2013; Smith & Allen, 2014; Young-Jones, Burt, Dixon, & Hawthorne, 2013).

Experiential and Applied Learning

The connection between integrative thinking, or experiential learning, and the social network, or participatory culture, is no longer peripheral to our enterprise but is the nexus that should guide and reshape our curricula in the current disruptive moment in higher education learning. (Bass, 2012: 12)

Education at polytechnic colleges and universities has undergone rapid evolution during the past 20 years. Recently, a host of pedagogically superior experiential learning opportunities such as projects, internships, and practica have been developed and implemented as a means for achieving differentiation of academic programs at various college and universities. Experiential learning includes service-based and project-based learning, practicum and internships. It provides students with the opportunity to: relate academic content to “real-world situations,” facilitate the acquisition of professional level skills, become aware of the complexities of the social and professional issues involved in real-life situations and, when appropriate, promote social, personal and emotional development. Experiential learning is attractive to a broad range of students. SUNY Poly offers experiential opportunities in almost every major including project-based assignments, service-based learning projects, practica and internships. These experiential-based learning opportunities frequently involve students in local, national and global projects, preparing them for a dynamic and diverse world.

Inside the classroom, SUNY Poly faculty use a wide range of experiential learning approaches. However, to further strengthen its applied learning capacity, SUNY Poly is implementing the following thematic strategy:

- **Thematic Strategy 5, Learning: Engage in Experiential (Applied) Learning:** Develop expertise and capacity to lead applied learning in SUNY and serve as broker to other SUNY institutions. Achieve widespread adoption of best practices for applied learning in most disciplines. Eventually offer global internship placement services to others in SUNY, NYS, & US.

To initiate this strategy, during fall 2014 the Provost conducted Student Learning Outcomes Assessment and Experiential Learning faculty workshops. Since then, experiential learning has continued to become more integrated into many of the curricular and programmatic developments in the various colleges. In addition, SUNY Poly “Student Project Showcase” provides students and faculty with an incentive to participate in more experiential and applied learning as well as recognition for superior projects. Many SUNY Poly faculty incorporate simulations, cases, hands-on-learning techniques, and other collaborative and experiential methods into the classroom. Also, faculty engage students through other customized one-on-one means such as Independent Study and Internship courses which provide students with additional experiential and applied learning opportunities.

Outside the classroom, faculty are using similar methods to fully engage students. For example, the Interdisciplinary Studies Program has been developing a Makerspace, at the Utica site, that

will encourage and enable students from all disciplines to creatively and collaboratively tinker with new and novel combinations of technology and art. This Makerspace is part of a larger experiential laboratory project known as the CGAM and SMARTT Laboratories (SMARTT Labs). The SMARTT Labs initiative involves extensive renovations to Donovan Hall, the main classroom building at the Utica site. The project is currently underway and will include an array of spaces and technologies that meet diverse educational purposes that range as follows:

- **Tele-Presence Studio**
- **Design Studio**
- **Project-Based Learning Laboratory**
- **3D Prototyping Center**
- **Digital Prototyping Center**
- **Poly Fab Learning Laboratory**
- **Scanning, Measuring, and Testing Laboratory**
- **Digital, Electro-Mechanical Learning Laboratory**

The SMARTT Labs will occupy approximately 18,860 square feet (JMZ Architects, 2015) at a total investment of over \$3.6 million for construction and \$7 million for equipment (Provost Durgin, personal communication, October 9, 2015).

In addition, the InnovationChallenge New York (ICNY) program is designed for students, working collaboratively on teams, to engage in project-based, experiential, and self-directed learning through the application of course concepts and approaches to a real life challenge. Undergraduate and graduate students from SUNY Poly and other area universities collaborate across disciplines to create innovative solutions to New York State’s most challenging social and economic issues. ICNY combines the best of business modeling and innovation with collaborative design methodologies developed and used by Architects, designers, and urban planners. During this past year, one iteration of ICNY provided the Utica community with options for a community-based Makerspace. Another iteration explored and generated ideas to optimize utilization of spaces at Cayan Library and identified opportunities for expanding and building library services that meet the evolving needs of all constituencies, especially students.

Recently, a few members of the strategic planning task developed one of the experiential learning ideas produced during the strategic planning process and are now seeking external funding to launch a new High Impact Learning and Teaching Hub (HILT or the Hub) designed to promote and enhance experiential “learning by doing” pedagogy with a goal of achieving widespread adoption. The hub will formalize and expand upon the applied learning activity already occurring at SUNY Poly and provide a framework for broad adoption at all SUNY institutions. Additionally, it will capitalize on the industrial and community partnerships already established as part of the Start-up New York initiative and formalize research participation and senior project activity already embraced by SUNY Poly and at other institutions (Joseph & White, 2015). In addition, discussions are underway to determine how the HILT program might be

instrumental in facilitating productive scholarly and work connections among SUNY Poly's partner Innovation Centers (see Academic Excellence section, Partners subsection) and its students and faculty. During mid-September 2015, SUNY Poly received notification that the initial HILT Hub proposal had been accepted by the SUNY System's Expanded Investment and Performance Fund RFP for a complete stage II proposal.

Lastly, as the quote below suggest, experiential learning not only is a more student-centered pedagogy, but also may actually strengthen pathways to graduate studies which may ultimately enhance the regional "brain pool":

Interestingly enough, students tend to continue their education into graduate schools at a significantly increased rate, after participating in experiential learning as part of an undergraduate program ... (Cantor, 1997: 3)

Academic Excellence

Distributed leadership is being extensively employed in the USA and UK as the means to implement change in schools. Drawing on concepts from activity theory, distributed leadership acknowledges the complex interplay between subjects, objects and instruments, rules, community and division of labor to build leadership capacity. (Jones, Harvey, Lefoe, & Ryland, 2014: 605)

At the heart of the new SUNY Poly is a shared and long-standing commitment to academic excellence by both of the merged organizations. SUNY Poly deeply values intellectual achievement, collaboration, accomplishment in teaching, research, discovery, and scholarship, and innovative pedagogy both in the classroom and online. Accordingly, the highest levels of leadership at SUNY Poly understand the distributed leadership roles that its diverse constituents perform in enacting this value and achieving excellence. These important and varied constituencies include: faculty; undergraduate students; graduate students; staff; external communities and partners; and alumni, parents, and friends.

Academic excellence, enacted through high levels of collaboration among SUNY Poly's constituents, is necessary for realizing imperatives SP 1, Integrated and Differentiated University and SP 3, Impactful Scholarship. To facilitate this collaboration, SUNY Poly is implementing the following thematic strategies:

- **Thematic Strategy 2, Institute: Create Fully Functioning Institution:** Complete the process of creating a single SUNY university to serve NYS high tech and high-demand professionals. SUNY Poly will support excellence in research, teaching/learning and service.
- **Thematic Strategy 3, Capabilities: Strengthen Existing Capabilities:** Develop clear plan and structure for SUNY Poly such that constituent needs are supported. Maintain existing academic and research infrastructure to sustain existing excellence to enable a dynamic and robust teaching environment for undergraduate, graduate and post-doctoral students.
- **Thematic Strategy 9, Capacity: Develop Human Capacity:** Develop SUNY Poly faculty, staff, and students so that they are able to contribute to institutional goals, especially expanding research capacity.
- **Thematic Strategy 10, Culture: Develop Culture of Resourcefulness:** Develop common understanding that everyone can and should attract resources to support SUNY Poly endeavors. Develop unique academic and research infrastructure to distinguish SUNY Poly from peer universities.

To achieve these imperatives through the implementation of thematic strategies TS 2, TS 3, TS 9, and TS 10, SUNY Poly has undertaken a variety of tactical activities as discussed in the

subsections below. Academic excellence and these particular thematic strategies favorably influence and support all SUNY Excels goals.

As a means to developing a fully functioning post-merger institution, the university recently restructured into five major colleges that were described earlier. This new structure will provide greater administrative capacity and depth in critical academic areas. Furthermore, the SUNY Poly faculty members have been working to establish a faculty governance structure for the two-site university. This important work is complete as reflected in the following description:

The process of developing bylaws for a governance body for SUNY Poly began in June, 2014, when President Kaloyeros asked 4 people from each site to serve on a governance working group. The governance working group began its work in earnest in the fall of 2014. They met a number of times, either in person or electronically, and several times solicited feedback from the governance bodies of SUNY Poly’s constituent sites. The proposed bylaws were then submitted for ratification to the governance bodies at the sites. Each of those governance bodies conducted its own vote, and the bylaws were ratified and formally sent to President Kaloyeros in September, 2015. Those bylaws establish a governance body that is consistent with SUNY Poly’s federated nature. Primary governance authority in most areas remains with the governance bodies at the two sites. At the federal level, the bylaws establish a SUNY Poly Governance Council with equal representation from both sites and co-chaired by a representative from each site. In addition, the bylaws establish five standing committees at the SUNY Poly level that report to the Governance Council: Academic Affairs; Academic Assessment; Faculty Status; Planning, Policy, and Budget; and Technology, Libraries, and Distance Learning. (M. Heyboer, personal communication, September 20, 2015)

Of equal importance, the university administration and employee unions have collegial, healthy, and effective working relationships. **Table 10** below summarizes the employee headcount trend.

Table 10 SUNY Poly Employee Trends (Actual and Projected)

Employee Trends									
Employee Type	Actual Counts			Projected Counts					
	Fall 12	Fall 13	Fall 14	Fall 15	Fall 16	Fall 17	Fall 18	Fall 19	Fall 20
Faculty (full and part time)	186	191	244	251	257	264	270	282	295
Staff (full and part time)	206	214	248	254	259	265	270	277	285
Total Employee	392	405	492	505	516	529	540	559	580

Note: SUNYIT merged with the College of Nanoscale Science and Engineering (CNSE) to create SUNY Polytechnic Institute. July 3, 2014 all CNSE personnel merged onto one payroll to create a significant increase in headcount for all staffing areas. Fall 2012 and 2013 figures are for the Utica site only.

The Faculty

SUNY Poly has increased standards for new faculty hires—recent faculty members recruited to teach and conduct scholarly research in the academic programs are nearly all PhD credentialed. By fall 2014 after the merger, SUNY Poly’s total faculty count stood at 244 full- and part-time members (see **Table 11** below). To serve their needs in terms of resources, facilities, and support, SUNY Poly is strengthening its sponsored research office, technology support functions, and faculty development programs. Concurrently, faculty presence on campus is strong and expectations for tenure and promotion are high. **Table A6.1** in **Appendix 6** lists SUNY Poly new faculty hires during the past three years. These hires demonstrate exceptional educational levels--a very high percentage have obtained terminal degrees and are developing outstanding research and teaching credentials.

By the fall of 2015, total faculty numbered 251 or a full-time equivalent (FTE) of 170.5. Full-time faculty numbered 131 or 52% of the total faculty. Part-time faculty numbered 120 or 48% of the total. The resulting student to faculty FTE ratio was 13.4 to 1. SUNY Poly aims to reduce this to 13.2 to 1 by fall 2020 mostly by increasing full-time faculty to 60% of the total.

Table 11 SUNY Poly Faculty Trends (Actual and Projected)

Faculty Trends									
Faculty Type	Actual Counts			Projected Counts					
	Fall 12	Fall 13	Fall 14	Fall 15	Fall 16	Fall 17	Fall 18	Fall 19	Fall 20
Full Time	76	79	124	131	136	143	149	164	177
Part Time	110	112	120	120	121	121	121	118	118
Total Faculty	186	191	244	251	257	264	270	282	295
Faculty FTE	112.3	116.0	163.6	170.6	175.9	182.9	188.9	202.9	215.9
Student to Faculty FTE Ratio	16.0	16.7	13.5	13.4	13.3	13.4	14.2	13.4	13.2

Note: FTEs are calculated using the SUNY System rate of 0.33 for each part-time faculty.

SUNY Poly’s faculty demonstrate exceptional scholarly ability. A select samples of recognition for scholarly achievement include the following:

- **Kathryn Stam**, Associate Professor of Anthropology, attended the White House “Champions of Change” event in recognition of research and community activities, June 24-25, Washington, D.C.
- **Vinod Kool**, Professor of Psychology, was selected to serve as a Fulbright Specialist in India.
- **Yu Zhou**, Associate Professor of Mechanical Engineering, was awarded a \$100,000 research grant by the National Science Foundation.
- **Daniel Jones**, Associate Professor of Mechanical Engineering Technology, and **Mohammed Abdallah**, Assistant Professor of Electrical Engineering Technology, were awarded \$20,000 in funding from SUNY’s 2014 Innovative Instruction Technology Grants (IITG) program for their work in advancing online learning opportunities.
- **Jerome Niyirora**, Assistant Professor of Health Information Management, was a co-author of a study, “#Ebola on Instagram and Twitter: How health organizations address the health crisis in their social media engagement”, which won the Institute for Public Relations Top Papers of Practical Significance Award at the International Public Relations Research Conference.
- **Robert Edgell**, Assistant Professor of Technology Management, had his research on organizational change and innovation featured on National Public Radio's *Academic Minute*. Also, the Herkimer and Oneida County Community Foundation awarded him a grant for InnovationChallenge New York (ICNY).
- **Vincent LaBella**, Professor of Nanoscience, Fellow APS and **Kathryn Stam**, Associate Professor of Anthropology, both received the Chancellor’s Award for Excellence in Scholarship and Creative Activities.
- **Scott Tenenbaum**, Associate Professor of Nanobioscience, with partnership biotech startup HocusLocus, LLC, was awarded over \$1 million from the National Institutes of Health and National Science Foundation for development of an RNA-based platform technology.
- **Mengbing Huang**, Associate Professor of Nanoscience, was awarded \$380,000 from the National Science Foundation for the development of a novel Ion implant instrument for enabling advanced computing capabilities.
- **Alain Diebold**, Professor of Nanoscience, Fellow AVS

Undergraduate Students

As **Table 12** below indicates, approximately 2,740 students, or 2,217 FTE, are enrolled at SUNY Poly. Undergraduates make up 74 percent of the student population with 26 percent being graduate students. This composition has not significantly changed over the past ten years.

Table 12 SUNY Poly Undergraduate and Graduate Registered Counts

Undergraduate and Graduate Registered Student Counts				
Level	Summary for Fall 2015			
	Number	Number % of Total	Full-Time Equivalent (FTE)	FTE % of Total
Undergraduate	2082	75%	1933.4	85%
Graduate	710	25%	347.6	15%
Total	2792	100%	2281	100%

About 81 percent of the undergraduates are enrolled as full time students. 60 percent are male whereas 40 percent are female. In terms of ethnicity, approximately 64 percent are White, 6 percent African American, 4 percent Hispanic, and 3 percent Asian or Pacific Islander. In terms of residency, almost 97 percent are residents of New York State. Another 1 percent are from out-of-state while about 2 percent are international. 56 percent of undergraduate students are 20-29 years old with 27 percent being under 20 years. See **Table 13** below for additional detail.

Table 13 SUNY Poly Undergraduate Demographic Profile

Undergraduate Demographic Profile				
Demographic Data		Fall 2014		
		Freshman (n=347)	All Undergraduate (n=2034)	All % of Total
Status	Full-Time	347	1,646	81%
	Part Time	0	388	19%
Gender	Male	266	1,227	60%
	Female	81	807	40%

Ethnicity	White	156	1,293	64%
	African American, Non-Hispanic	10	130	6%
	Asian or Pacific Islander	6	68	3%
	Hispanic	15	83	4%
	Other - International	12	43	2%
	American Indian/Native American	0	5	<1%
	Mixed	5	12	<1%
	Unknown	143	400	20%
Residency	NY State	326	1,963	97%
	Out of State	9	28	1%
	International	12	43	2%
Age	<20	345	551	27%
	20 - 29	2	1140	56%
	30 - 39	0	201	10%
	40 - 49	0	103	5%
	50 - 59	0	38	2%
	60 plus	0	1	<1%

SUNY Poly has a growing reputation and is attracting more, highly qualified students. As revealed in **Table 14** below, over the past few years incoming freshman have had strong GPAs that consistently hover around 90 percent and SAT's around 1100. However, Fall 2015 preliminary tier data reveals a skewing of distribution towards **Tier 1** with 32 percent (up from 19 percent in 2014) and way from Tier 2 with 41 percent and Tier 3 with 26 percent. When compared to 2014 data, 2015's **Tier 1** is up by 42 students whereas Tier 2 is down by 11 and Tier 3 is down by 27. These talented incoming students have higher expectations with regard to both academic rigor and campus environment.

Table 14 SUNY Poly Entering Freshman Academic Profile Trends

Entering Freshman Academic Profile Trends					
Academic Data	Cohort Trends				
	Fall 2011 (n=198)	Fall 2012 (n=198)	Fall 2013 (n=274)	Fall 2014 (n=347)	Fall 2015 (n=347)

High School Grade Point Average	89.0%	90.0%	90.2%	89.0%	90.3%
SAT Average	1090	1100	1100	1090	1136
% Tier 1 & Tier 2	60.1%	64.6%	61.7%	63.2%	73.6

SUNY Poly’s undergraduate students demonstrate exceptional talent. Examples of recent scholarly achievement include the following:

- Students **Crystal Bastien** and **Kyle Brubaker** presented at SURC 2015, the SUNY Undergraduate Research Conference, April 10, Brockport, NY. **Bastien**, advised by faculty members Kathryn Stam, Daryl Lee and Patricia Murphy, presented “Culturally Competent Health Care Services: Overcoming Language Barriers in Utica, New York.” **Brubaker**, advised by faculty member Alexander Bulson, presented “Utilizing the e-Portfolio to Help Create the Next Stepping Stone in an Undergraduate Student’s Career.”
- Student **Daniel Yaciuk**, advised by faculty members Edmond Rusjan and Andrea Dziubek, presented “Numerical Computation of Darcy Flow using DEC at HRUMC XXII, the Hudson River Undergraduate Conference in Mathematics at Union College, Schenectady, NY.

In addition, the recent **Student Project Showcase** winners were as follows:

- For the College of Health Sciences and Management: **Sarita Ruiz** for her presentation “Sarita’s Food Truck” (Faculty Advisor: William Langdon)
- For the College of Engineering: **Edcel Gates, Gabriel Stinebrickner, Evan Hala, and Joseph Rabben** for their presentation “ASCE Steel Bridge Design” (Faculty Advisor: Steven Wei)
- For the College of Arts and Sciences: **Sabrina Verdgeling** and **Sasuauna Taylor** for their presentation “Coded Children’s Family Drawings” (Faculty Advisor: Kazuko Behrens)

Lastly, SUNY Poly’s students have demonstrated outstanding entrepreneurial acumen as evidenced by three recent state-level wins in the **2015 New York Business Plan Competition** (Kathleen Alcott and Ashley Pillsbury Stuart, personal communication, September 16, 2015).

The winning students and projects include:

- **Yudhi Kandel** and **Jonathon Schad** with their **ACV Metrology** project earned **First Place – \$10,000 cash and in-kind services in the Advanced Technology and Nanotechnology category**
- **Gourav Bhowmik** and students from one other university with their **LuxOrion** project took **Second Place – \$5,000 cash in the Energy and Sustainability category**

- **Gourav Bhowmik** and **Jake Terracina** and students from two other universities with their **Brewminder** project earned **Third Place – \$1,500 cash in the Advanced Technology and Nanotechnology category**

Interestingly, **LuxOrion** applied and was admitted to SUNY Poly’s iCLEAN incubator after the competition (Kathleen Alcott and Ashley Pillsbury Stuart, personal communication, September 16, 2015).

Additionally, several students have received prestigious awards:

- **Sheila Smith** received the **Goldwater Award**
- **Zachary Olmstead** and **Chase Brisbois** received **Goldwater Honorable Mentions**

Graduate Students

SUNY Poly’s growing graduate population, consisting of master’s and doctoral-level students as of fall 2015, is both diverse and exceptionally talented. As **Table 15** below indicates, about 71 percent of the graduates are enrolled as part time students. 54 percent are male whereas 46 percent are female. In terms of ethnicity, approximately 57 percent are White, 5 percent African American, 2 percent Hispanic, and 3 percent Asian or Pacific Islander. In terms of residency, about 76 percent are residents of New York State. Another 3 percent are from out-of-state while about 21 percent are international. 51 percent of graduate students are 20-29 years old with another 48 percent that are 30 to 59 years old.

Table 15 SUNY Poly Graduate Demographic Profile

Graduate Demographic Profile			
Demographic Data		Fall 2014	
		Graduate (n=706)	% of Total
Status	Full-Time	202	29%
	Part Time	504	71%
Gender	Male	381	54%
	Female	324	46%
	Unknown	1	<1%
Ethnicity	White	402	57%
	African American, Non-Hispanic	34	5%
	Asian or Pacific Islander	22	3%

	Hispanic	16	2%
	International	150	21%
	American Indian/Native American	3	<1%
	Mixed	3	<1%
	Unknown	76	11%
Residency	NY State	538	76%
	Out of State	18	3%
	International	150	21%
Age	<20	0	0%
	20 - 29	357	51%
	30 - 39	164	23%
	40 - 49	116	16%
	50 - 59	63	9%
	60 plus	6	1%

As **Table 16** below reveals, SUNY Poly’s graduate students bring modest academic credentials and capabilities to the institution which illustrates the need to strengthen research and reputation to achieve the institutional stature sought.

Table 16 SUNY Poly Graduate Students Academic Profile Trends

Graduate Students Academic Profile Trends				
Academic Data	Trends			
	Fall 2011	Fall 2012	Fall 2013	Fall 2014
GRE Verbal	378	392	400	376
GRE Quantitative	653	664	672	550
GRE Analytical Writing	3.1	3.1	3.0	3.4
GMAT Verbal	30	28	29	28
GMAT Quantitative	31	30	31	30
GMAT Total Converted	514	493	503	491

Acceptance Rates	54.9%	55.3%	56.5%	50.8%
Enrollment Rates	38.7%	29.3%	34.8%	27.9%

In addition to having unique and diverse backgrounds, SUNY Poly’s graduate students are involved in producing exceptional research. Examples of recent scholarly achievement include the following:

- Former student, **William Roberts** (alumnus), collaborating with faculty member William “Amos” Confer co-authored the book, “Exploring SE for Android” which was published by PACKT publishing, Birmingham, U.K. Roberts is an alumnus with a master of science in computer science.
- Current MBA in Technology Management student and graduate research assistant **David Watson** contributed to a recent scholarly paper with faculty member, Robert Edgell, titled, “Explicating media, governance, and capitalism: A critical comparative analysis of historical cases.”. The paper was published in the peer-reviewed academic journal, **Corporate Board: Role, Duties and Composition**.
- **Bridget Mooney** is an outstanding graduate student at SUNY Poly. She developed a love of science at young age and made her own way to graduate school in spite of obstacles. She was awarded NSF Graduate Research Fellowship Program (GRFP) Honorable Mention in 2013 and co-authored on two peer-reviewed journal papers (**Biotechnology Journal** 2013; 8:408-419; **International Journal of Molecular Sciences** 2011; 12:7662–7691).
- **Nick Karker**, a PhD student working in the research group of faculty member, Michael Carpenter, has developed a new sensing paradigm for plasmonics based chemical sensors, which combines energy harvesting techniques with data reduction and mining methods. Through this work Karker has led the design of plasmonically active nanocomposite materials, which are optically activated with near infrared (NIR) wavelengths of light that is harvested by the nanocomposite from the waste heat emitted by the combustion source.

Staff

SUNY Poly has an outstanding cadre of dedicated staff. As Steven Perta, Chair of the Staff Assembly, explains:

Aside from Faculty and certain Management Confidential personnel, all other employees are considered members of the staff. SUNY Poly staff support Administrative, Financial, Registrar, Technical Support, Safety and Security, Research, Public Relations, Marketing, Admissions, Physical Plant, Instructional Support, Alumni Relations, Counseling and

Placement functions within the institution. SUNY Poly staff are involved in the selection and hiring of new staff through participation on search committees. Staff are also involved in various institutional committees and through participation in various assemblies, are involved in institutional governance. Student Opinion Surveys (SOS) reflect a positive feeling about the performance and commitment of the staff towards institutional success. (S. Perta, personal communication, September 9, 2015)

From the most recent Student Opinion Surveys (SOS), student approval is around 4.0⁵ for levels of satisfaction with both non-teaching staff respect for students and library services. As **Table 17** below shows, full-time staff has increased from 177 to 185 to 211 with a sharp upswing in 2014 due to the merger. Part-time staff has remained approximately constant. Minor increases in staff are expected by fall 2020. **Table A6.2** in **Appendix 6** lists the variety and quality of recent new hires.

Table 17 SUNY Poly Staff Trends (Actual and Projected)

Staff Trends									
Staff Type	Actual Counts			Projected Counts					
	Fall 12	Fall 13	Fall 14	Fall 15	Fall 16	Fall 17	Fall 18	Fall 19	Fall 20
Full Time	177	185	211	218	222	227	231	238	245
Part Time	29	29	37	36	37	38	39	39	40
Total Staff	206	214	248	254	259	265	270	277	285
Staff FTE	186.6	194.6	223.2	229.9	234.2	239.5	243.9	250.9	258.2

Note: FTEs are calculated using the SUNY System rate of 0.33 for each part-time staff.

Partnerships

At the institutional level, SUNY Poly has a number of highly productive partnerships and Innovation Centers that comprise the burgeoning “Nanotech Corridor” as depicted in **Figure 3**.

One goal is to bolster and expand partnerships with academic institutions, expand partnerships with national laboratories and research centers, and forge partnerships with regional institutions of higher education. SUNY Poly has a strong relationship with national laboratories such as NIST and with several institutes at the National Institutes of Health (NCI, NIDCR, NIDCD,

⁵ Based on a 1-5 point Likert scale where 1= Very dissatisfied and 5=Very satisfied.

NIOSH, etc). SUNY Poly supports a very large industrial research enterprise including partnerships with more than 300 corporations populating Innovation Centers across the state. The academic centers at Utica and Albany provide access both to state of the art scientific and applied research equipment and to faculty and students studying technological subjects. The Albany complex focuses on nanotechnology and engages several thousand staff and corporate engineers and scientists. The Utica site supports advanced manufacturing through its SMARTT laboratory complex and scientific and manufacturing equipment in automation and robotics. Educational initiatives such as the Tech Valley High School and the FIRST robotics initiatives are important outreach activities supporting the STEM pipeline. SUNY Poly also operates the Smart Cities Technology Innovation Center (Kiernan Plaza), the Solar Energy Development Center (Halfmoon), the Children’s Museum of Science and Technology (Albany), the Central New York Hub for Emerging Nano Industries (Syracuse), the Smart System Technology and Commercialization Center (Canandaigua), and the Photovoltaic Manufacturing and Technology Development Facility (Rochester). SUNY Poly also leads the American Institute for Manufacturing Integrated Photonics, The Computer Chip Commercialization Center (QUAD C), the New York Power Electronics Manufacturing Consortium, the Buffalo Information Technologies Innovation and Commercialization Hub, and the Buffalo Medical Innovation and Commercialization Hub. Logos for the various partners are shown in **Figures 4 and 5** below.

Figure 3 SUNY Poly’s Institutional Partnerships Along the “Nanotech Corridor”

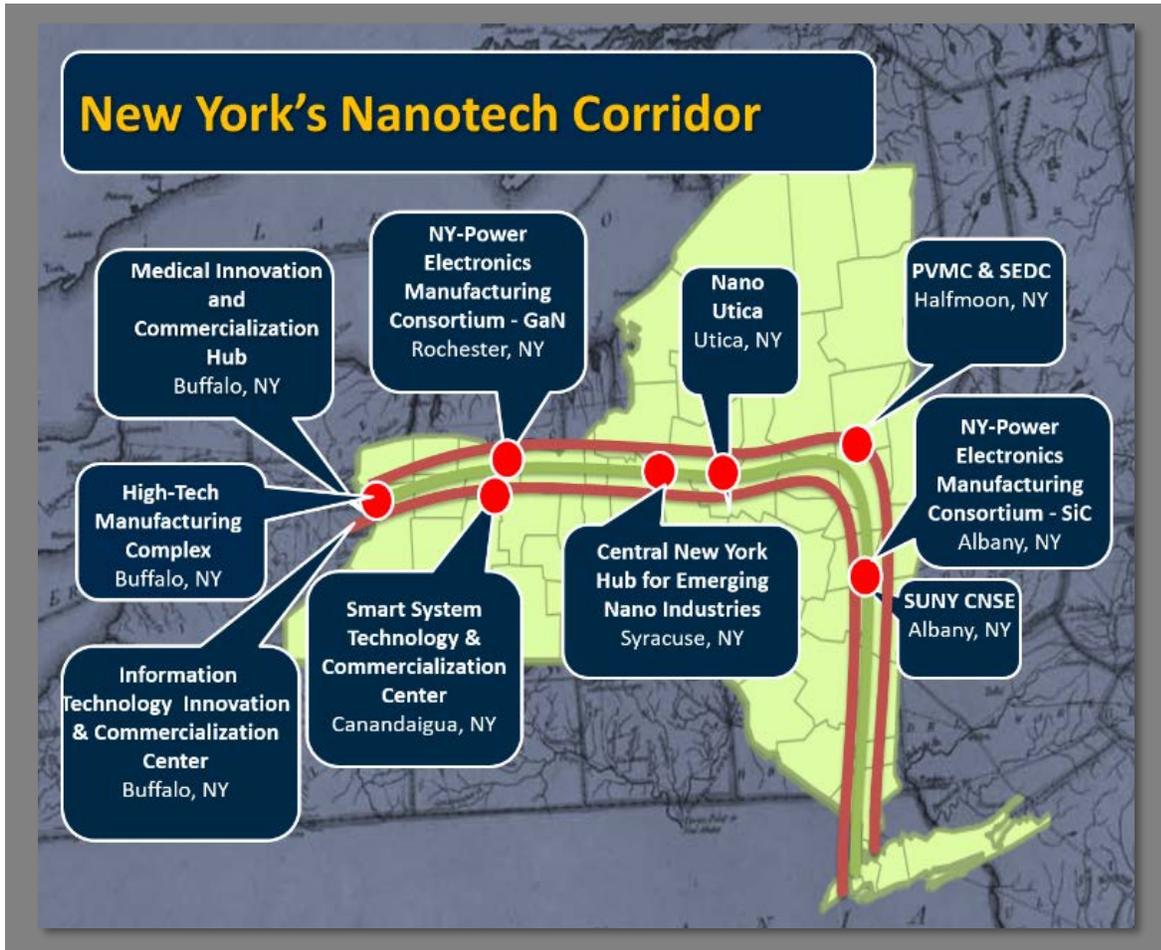


Figure 4 SUNY Poly’s Institutional Partnerships



Figure 5 SUNY Poly’s Institutional Partnerships, PVMC Members and Supply Partners



In addition, SUNY Poly collaborates with a number of external partners at the programmatic level as described in Table 18 below.

Table 18 SUNY Poly Programmatic Partnerships

Programmatic Partnerships		
Partners	Program	
	Name	Description
Air Force Research Laboratory (AFRL)	Visiting Scholar Program	The Visiting Scholar Program provides additional research capability to the Air Force Research Laboratory through the placement of faculty members and graduate students. Research initiatives begin during the summer and may be continued during the academic year. Disciplines include engineering, computer science, and mathematics.
Air Force Research Laboratory (AFRL)	Educational Partnership Agreement	The objective of this agreement is to form a collaborative research environment between AFRL and the Foundation. This partnership will enhance the possibility for hands-on training of students to work on unique high-level projects together with exposure to the technology transfer process from the research lab to a systems application. This partnership will also provide a unique opportunity for AFRL/RI personnel to work on collaborative research projects with the Foundation.
The Community Foundation of Herkimer and Oneida Counties and area universities including SUNY Oneonta, Temple University, SUNY Cobleskill, Hartwick College and others.	Innovation Challenge New York (ICNY)	The ICNY project is designed for students (working collaboratively on teams) to engage in project-based, experiential, and self-directed learning through the application of course concepts and approaches to a real life challenge. Students from SUNY POLY and other area universities collaborate across disciplines to create innovative solutions to our area’s most challenging social and economic issues. ICNY combines the best of business modeling and innovation with collaborative design methodologies developed and used by Architects, designers, and urban planners.
For Inspiration and Respect of Science and Technology (FIRST)	FIRST Lego League (FLL & Jr. FLL)	Robotics for 9 to 14 year olds.
	FIRST Tech Challenge (FTC)	Robotics for high school students.
	FIRST Robotics Challenge (FRC)	Robotics w/high school and college student teams.
Utica City Schools	STEM Professional Development	STEM Professional Development for school teachers.
	"STEM in a Box" and "NANO in a Box"	STEM and NANO learning activities for elementary and middle school students.
Digital Towpath	Digital Towpath Website	Provide web related resources for villages, towns, counties, etc.

Mohawk Valley Institute for Learning in Retirement (MVILR)	MVILR Noncredit Courses	Provide noncredit learning opportunities for organization's members.
Indium Corporation and Utica area schools	Mohawk Valley Technology Showcase	Partner with Indium Corporation and area schools to showcase their STEM projects.
National Science Foundation and Utica area schools	NSF After School STEM Mentoring Fellowship	Graduate students provide STEM mentoring to elementary school children.
Utica area local governments	Institute for Local Government	Provide training for local government officials.
Leadership Mohawk Valley (LMV)	Leadership Training	Provide leadership training for local business executives.
Herkimer County Department of Social Services	Employee Training	Provide technology and non-technology training to employees.
New York State Technology Enterprise Corporation (NYSTEC), Bank of Utica, M&T Bank, Mohawk Valley Edge, Key Bank, Small Business Development Center (SBDC), and CTM	New York State Student Business Plan Competition, SUNY Poly Region	Annual competition that enables students to develop innovative business concepts.
Workforce Development Institute (WDI), Center for Global Advanced Manufacturing (CGAM), Small Business Development Center (SBDC), and Working Solutions	Manufacturing Day	Conference and expo about state-of-the-art manufacturing approaches for area manufacturers, businesses, educators and students.
Workforce Development Institute (WDI)	Mini Maker Faire (MMF)	Expo that connects makers, students, and faculty from across the region to showcase, share, inspire and disseminate the spirit of the maker movement.
Sullivan County Community College, Orange County Community College, Ulster County Community College, Rockland Community College, Mohawk Valley Community College, Dutchess Community College, Herkimer County Community College, Westchester Community College, and Morrisville State College	CGAM SMARTT Labs Consortium	Administered by SUNY Poly, SMARTT Labs is an initiative partially funded by a SUNY 2020 award for developing advanced technology and manufacturing laboratories in various regional community colleges.
Girls Inc.	Girls Inc. Eureka!®	Collaboration between SUNY Poly's Albany site and Girls Inc. which led to the creation of the nation's first Girls Inc. Eureka!® program encouraging young women to pursue a growing number of educational and career opportunities in the field of nanotechnology. Nearly 80 girls recently participated in the program's third year, and a number of those young women took part in the Earth Day cleanup.

Sitrin Health Care Center	Sitrin and SUNY Poly Collaboration	Agreement for internships and practicums for students, research opportunities and the possibility of a shared faculty position.
Tech Valley High School	Tech Valley High School	“Through these partnerships, the lessons taught at TVHS are constantly updated to remain relevant to the students. They also provide students unique opportunities to visit and experiment in real-world laboratories and workplaces and the students benefit from access to leaders from all levels of society. The school was formed in 2007 through a partnership of Capital Region BOCES and Questar III and is supported by members of the Business Alliance and Tech Valley Foundation Board.” To learn more, go to http://techvalleyhigh.org/Partners/Partners_and_supporters.html

Alumni, Parents, and Friends

For many years, the two merged institutions have produced a diverse cadre of alumni who have used their capabilities to lead and serve organizations and communities. Below are just a few of these exceptional graduates as evidence of SUNY Poly’s ability to produce long-term student success and satisfaction:

Eve Van de Wal. *A single-page résumé would not do justice to Eve Van de Wal. Her career has comprised an array of roles with increasing clout in the healthcare field; a textbook example of climbing the corporate ladder. While her professional impact in the healthcare field is significant, her community involvement and educational accomplishments show a well-rounded, motivated, and driven woman. Van de Wal began her career as a Registered Nurse working for more than a decade in the Critical Care unit of Utica’s Faxton Hospital. In the late 1990s she decided to venture into healthcare administration by taking a position with Excellus BlueCross BlueShield. Over the next 13 years, she would move up the corporate ladder in various managerial roles until being named regional president in 2008. (SUNY Poly, 2013: 3)*

Dennis Elsenbeck. *For Dennis Elsenbeck, it’s all about connecting the dots. As Regional Executive for National Grid’s Western Division, Elsenbeck is responsible for representing the company in public affairs, community relations and network alignment, as well as the region’s large commercial and industrial customers in terms of energy sales, reliability, service and strategic planning. (SUNY Poly, 2014b: 9)*

Fernando Gómez-Baquero. *Fernando Gómez-Baquero was looking for a technology to commercialize when he moved from Colombia to the United States to study at Albany’s nanocollege. Gómez-Baquero, who co-founded the first student company to spin out of the College of Nanoscale Science and Engineering, left a corporate job in his mid-20s to build a career in the growing field of nanotechnology. He didn’t want to wonder “what could have been” if he didn’t follow his interest in nanotechnology. Today, he’s the CEO*

of Bess Technologies, a startup focused on building better lithium-ion batteries for use in consumer electronics, electric vehicles and other applications. (Rogers, 2015: ¶1)

Kevin Maddy. *Today, Kevin Maddy '79 is lighting up the lives and nights of some of the world's largest companies, including part of One World Trade Center in New York City currently under construction. But before he became Kevin Maddy, CEO and Board President of the North American Subsidiary of an international commercial lighting company he was Kevin Maddy, the SUNYIT transfer student from Broome Community College in Binghamton. While it's been more than 30 years since his student days, the memories remain fresh and vivid. (SUNY Poly, 2014a: 2)*

Lee Einsidler. *Every journey begins with a single step, including that of Lee Einsidler '78. As a teenager, he believed in his heart that he had a head for business, and bucked the naysayers by facing life one step at a time. In doing so, he made his dreams come true while helping others. Today, Einsidler is a philanthropist and Chief Executive Officer of Sidney Frank Importing Company, Inc. (www.sidneyfrank.com), the largest importer of sake in America, marketing masterminds behind the Jägermeister brand, known for redefining the vodka category with Grey Goose vodka, and creator of "the next revolution in spirits": American Harvest organic vodka. (SUNY Poly, 2011: ¶2)*

SUNY Poly attracts students from families all over New York, many other states and, in 2011-2012, more than a dozen nations. As of 2015, there are more than 24,000 living alumni located in all 50 states and in 34 countries. However, the majority of SUNY Poly graduates remain in New York State making contributions in the fields of communication, computer science, engineering technologies, management, nursing and many other occupations. These alumni have a significant economic impact and make vast contributions at work and in the communities in every region of New York State.

Initially founded as an independent 501(c)(3) organization, the Alumni Association (AA) unincorporated in 2008 and currently operates under the umbrella of the SUNY Polytechnic Institute Foundation. The AA promotes the welfare of the college by cultivating a mutually beneficial relationship between SUNY Poly and its growing worldwide community of alumni.

The AA provides and supports alumni programs and services, facilitates communication with alumni and seeks to strengthen alumni engagement and involvement with the college. For example, the AA hosted 28 alumni events in the past 18 months; an additional 15 events are planned for 2016. **Table 19** below delineates the various programming offered by the AA.

Table 19 SUNY Poly Alumni Association Programming

Alumni Association Programming	
Name	Description
Wildcat Weekend	Annual reunion/homecoming/parent weekend in September with 25+ individual programs over 72 hours.
Showcase Events	Alumni in NYC (December), Saratoga Racetrack (August), Empire Brewfest (July), Utica Brewfest (August), Utica Comets (January).
Alumni Happy Hour Series	Informal social gatherings in cities with large alumni population (Boston, Austin, Washington DC, Philadelphia, etc...). Recognized at 2013 SUNYCUAD Conference as a top alumni program in SUNY system.
Benefit and Discount website	Features discounts and money-saving offers from DirecTV, Dell, Liberty Mutual, BJ's Wholesale Club and many more at www.sunypoly.edu/alumnibenefits .
Alumni Association Endowed Scholarship	Established in 2001 annual award for full-time student with preference to legacy.
Alumni Admissions Ambassador Program	Volunteer opportunities for alumni to travel to recruiting events with our Admissions Counselors to describe their experiences and answer questions from prospective students and their parents.
Other Benefits	<ul style="list-style-type: none"> • Lifetime .edu email address. • Discounted memberships to Field House Fitness Center and Athletic Facilities. • Access to Career Services Office and Career Fair.

The Alumni Association has strategically produced exceptional results which include more than 2,100 total alumni event attendees in FY 2014 and nearly 3,000 in FY 2015 (J.P. Kidwell, personal communication, October 9, 2015). Furthermore, there is currently a 97 percent overall satisfaction rating with the alumni and offerings based on annual alumni event attendee feedback survey. The Alumni Association Facebook page increased to over 3,950 likes in August 2015 compared to less than 400 in November 2012. Perhaps most important, these long-term efforts are yielding significant increases in the percentage of alumni who participate in annual giving, increasing from only 2.7 percent in FY 2010 to 7.1 percent in FY 2014 (see **Table 20** below). This is especially remarkable when one considers that the national average participation rate for public institutions is only 4.2 percent (Grimmer, 2015: 5). In recognition of this major achievement, the Alumni Association received the **2014 CASE Educational Fundraising Award for Overall Improvement Among Public Comprehensive Institutions Across the Country**. This award is granted annually by the prestigious Council for Advancement and Support of Education (CASE). As for the future, the Alumni Association expects overall increases

in total alumni at the rate of approximately 700 per year as shown in **Table 21**. SUNY Poly’s current endowment is nearly \$7 million. However, the goal is to increase the endowment to around \$15 million by 2020. Lastly, the Alumni Association leadership is guided by highly committed individuals who serve on the Foundation Board of Trustees as delineated in **Table 22**.

Table 20 SUNY Poly Alumni Annual Giving Participation Rates

Alumni Annual Giving Participation Rates				
Annual %				
FY 10	FY 11	FY 12	FY 13	FY 14
2.7%	4.4%	4.5%	5.4%	7.1%

Table 22 SUNY Poly Foundation Board of Trustee Members

Foundation Board of Trustee Members (as of August 2015)		
<p>Officers:</p> <p>Anita Brown ‘98, G’08, Chair; Marketing Communications Manager, Indium Corporation</p> <p>Dr. Robert Geer, CEO; Senior Vice President & COO, SUNY Polytechnic Institute</p> <p>Nick Grimmer ‘05, CFRE, Executive Director (non-voting); Assistant Vice President of Development, SUNY Polytechnic Institute</p> <p>Luke Lewis P ‘17, 1st Vice Chair; Owner, Lewis Custom Homes, Inc.</p> <p>Karen Constabile, 2nd Vice Chair; VP for Commercial Lending, First Niagara Bank</p> <p>Patricia Connolly ‘87, Secretary; Retired, SUNY Polytechnic Institute</p> <p>Susan Head, Treasurer; Associate Vice President for Business Affairs, SUNY Polytechnic Institute</p>	<p>Members:</p> <p>Rudolph A. Buckley; MD, MBA, FAAOS, Spine Surgeon, Hamilton Orthopaedic Surgery and Sports Medicine</p> <p>Allison Damiano-DeTraglia; Vice President/Account Services, Paige Marketing Communications Group, Inc.</p> <p>Dr. Gregory Denbeaux; Faculty Assembly Representative, SUNY Polytechnic Institute (Albany Site)</p> <p>Michael Evke ‘84; President, Eversan, Inc.</p> <p>Nicholas Laino ‘99, G’04; Vice President for Administration and Finance, Herkimer County Community College</p> <p>Mary Mandel G’95; Assistant Superintendent for Business, New Hartford School District</p> <p>James McCarthy G’02; President, Northland Communications</p>	<p>Members Continued:</p> <p>Steve Perta ‘82, G’02; Staff Assembly Representative, SUNY Polytechnic Institute (Utica Site)</p> <p>Thomas Selfridge; President, Albany Valve & Fitting Co., Inc.</p> <p>Heather Spence-Mancini ‘04; Lead Project Manager, BAE Systems</p> <p>Krista Thompson; Staff Assembly Representative, SUNY Polytechnic Institute (Albany Site)</p> <p>Merima Veiz ‘17; Student Association Representative, SUNY Polytechnic Institute Student Association (Utica Site)</p> <p>Andrew Ward, Esq.; Attorney-at-Law, The Ward Law Firm, PLLC</p> <p>TBA; Faculty Assembly Representative, SUNY Polytechnic Institute (Utica Site)</p> <p>TBA; Student Association Representative, SUNY Polytechnic Institute Student Association (Albany Site)</p>

	<p>Joseph Nicolla; President and Founder, Columbia Development Companies</p> <p>Ronald W. Oakley; Chief Executive Officer, M+W Americas</p>	<p>Honorary Members:</p> <p>Hon. RoAnn M. Destito Robbin Mele Gaudiere Hon. Joseph Griffo Dr. Theodore C. Max Shirley Waters</p>
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In addition to receiving strategic and financial input from its Foundation Board, SUNY Poly’s affairs and operations are supervised locally by the College council. The SUNY System requires all schools to maintain an active and involved College Council (SUNY, 2010: 6). An excerpt from the ACT Handbook clarifies the broad authority of the council:

Subject to the general management, supervision, control and approval of, and in accordance with rules established by the state university trustees, the council of each state-operated institution shall, with respect to the institution or institutions for which it serves, exercise the following powers:

- a. recommend to the state university trustees candidates for appointment by the state university trustees as head of such institution;*
- b. review all major plans of the head of such institution for its more effective operation and make such recommendations with respect thereto as it deems appropriate. Such plans shall be submitted for approval by the state university trustees, together with the recommendations of the council with respect thereto. The state university trustees shall determine what constitute such major plans, which are hereby generally defined to include, among others, plans for the appraisal or improvement of the faculty and other personnel, expansion or restriction of student admissions, appraisal or improvement of academic programs and of standards for the earning of degrees, expansion of institutional plants and appraisal or improvement of student activities and housing;*

- c. make regulations governing the care, custody and management of lands, grounds, buildings and equipment;*
- d. review the proposed budget requests for such institution prepared by the head thereof and recommend to the state university trustees a budget for such institution;*
- e. foster the development of advisory citizens committees to render such assistance as the council may request, and to appoint the members of such citizens' committees. Members of such citizens' committees shall receive no compensation for their services but shall be reimbursed for the expenses actually and necessarily incurred by them in the performance of their duties;*
- f. name buildings and grounds;*
- g. make regulations governing the conduct and behavior of students;*
- h. prescribe for and exercise supervision over student housing and safety;*
- i. make an annual report to the state university trustees on or before September first of each year, and report to them from time to time on any matter it believes requires their attention;*
- j. perform such other powers and duties as may be authorized or required by the state university trustees by general rules or special directives; and*
- k. make and establish, and from time to time alter and amend, such regulations pertaining to the affairs of its institution, not inconsistent with law or the rules of the state university trustees, as may be necessary or appropriate to carry out effectively the foregoing powers and duties. (SUNY, 2010: 7-8)*

The current roster of voting members and ex officio participants is shown in **Table 23** below.

Table 23 SUNY Poly College Council Members

College Council Members (as of August 2015)		
Officers: Donald W. Hanson, Ph.D., Chair	Members: George F. Aney, Esq. John S. Bay, Ph.D. Darlene A. Burns Joseph J. Corasanti, Esq. Patrick J. Donovan F. Christopher Giruzzi, Esq. Nichole M. Hinman, Esq. Theodore C. Max, M.D. Merima Veiz (SUNY Poly Student Member)	Participants Ex Officio: Alain E. Kaloyeros, Ph.D. (SUNY Poly President) Robert E. Geer, Ph.D. (SUNY Poly Senior Vice President & COO) Maarten Heyboer (SUNY Poly Chair, Faculty Assembly) Alumni Representative (SUNY Poly Alumni Officer coordinates attendance of alumni representative)

Facilities Development

School facilities affect learning. Spatial configurations, noise, heat, cold, light, and air quality obviously bear on students' and teachers' ability to perform. Empirical studies will continue, focusing on fine-tuning the acceptable ranges of these variables for optimal academic outcomes. But we already know what is needed: clean air, good light, and a quiet, comfortable, and safe learning environment. This can be and generally has been achieved within the limits of existing knowledge, technology, and materials. It simply requires adequate funding and competent design, construction, and maintenance. (Schneider, 2002: 16)

From its vibrant urban Albany site to its scenic and majestic location nestled among the rolling foothills overlooking Utica and the historic Mohawk Valley, SUNY Poly's physical plants offer a wonderful mix of new and planned infrastructure. At the Utica site during the past few years, four major buildings – a \$13.6 million student center, a \$20 million field house, a \$23.5 million freshman residence hall complex, and the \$1.5 billion Computer Chip Commercialization Center (Quad-C) – have been successfully completed. At the Albany site,

... the Zero Energy Nanotechnology (ZEN) building is CNSE's most recent expansion project and is scheduled for completion in 2015. ZEN is a \$191M, 356,000-square-foot facility that will serve as a living laboratory for clean and renewable energy technologies. NanoFab Xtension, completed in 2013, is a \$375M, 500,000-square-foot facility with 50,000 square feet of 300mm and 450mm wafer cleanrooms and serves as the headquarters for the Global 450mm Consortium. NanoFab East, a 250,000-square-foot office, laboratory and classroom building and NanoFab Central, a separate 100,000-square-foot building that houses 15,000 square feet of 300mm wafer, class 1 capable cleanroom space were part of a \$150 million project completed in March 2009. (J. Gretzinger, personal communication, September 10, 2015).

While these recent improvements have addressed shortcomings described in previous student opinion surveys and identified in the campus facilities master plan, there are additional plans for further infrastructure enhancement. Specifically, SUNY Poly seeks to maintain strong core facilities in 1) nanofabrication, 2) metrology, and 3) biological imaging and analysis; expand infrastructure to support research activities; include dedicated animal facilities, site radiation (radioisotope) use license/facility for radioactive isotopes, and soft material/chemical analysis capabilities; and expand teaching facilities including biological laboratories.

SUNY Poly is committed to improving and evolving its facilities at both sites to support anticipated student growth and programmatic robustness associated with imperative SP1, Integrated and Differentiated University. To achieve this, SUNY Poly is implementing the following thematic strategies:

- **Thematic Strategy 3, Capabilities: Strengthen Existing Capabilities:** Develop clear plan and structure for SUNY Poly such that constituent needs are supported.
- **Thematic Strategy 4, Virtuality:** Reduce dependence on physical location and increase collaboration through technology-mediated communication.

To achieve successful enactment of the two thematic strategies, SUNY Poly is planning for additional infrastructure development as delineated in the following subsections. Facilities development and these particular thematic strategies favorably influence and support all SUNY Excels goals.

Research, Teaching, and Extracurricular Life

At the Utica site, new projects are currently underway and planned that will enhance not only research and teaching capacity, but also extracurricular life for students. Major facility projects currently in progress include new laboratories, a new health and wellness center, and a classroom wing renovation as follows:

- **The Donovan Hall SMARTT/CGAM Laboratories.** An \$11 million project which will renovate ~15,200 sq. ft. of the ground floor and construct a 2,500 sq. ft. addition to the building. This project will house state-of-the-art equipment in support of advanced manufacturing. The facility will provide project space and high tech laboratories that supports student learning in a need to know basis. It will reflect the high quality of work and innovation taking place on campus. Estimated completion is spring 2017.
- **The Campus Center Phase II Renovation.** This project will provide ~3,600 sq. ft. of new space for the Health and Wellness center which is currently in Oriskany Hall dormitory. When completed, this work will free up approximately 5 double, and 2 single bedrooms in Oriskany Hall. The renovation will provide central access to students and enable privacy and confidentiality. Estimated completion is spring 2017.
- **The Kunsela A-Wing Classroom renovation project.** This \$1.1-million project is currently in construction and is scheduled for completion in January 2016. The project includes three classrooms and a student collaboration space.
- **Establish Institutional Infrastructure.** Establish an animal core facility, a radionucleotide facility, imaging facilities to support teaching and research experiences.

Regarding future plans, the Utica master facilities plan calls for the eventual development of two major new buildings. The first is a \$38 million STEM focused **Academic Classroom building** (~70,000 sq. ft.) scheduled for construction in 2018 and completion around 2021. The other is an \$18 million **Performing Arts Center** (~35,000 sq. ft.) including a concert hall which is scheduled for completion in 2023. Also, the master schedule calls for \$1.2 million in renovations to the Cayan Library (2017-20) which may involve developing additional classrooms along with mechanical upgrades. The schedule also calls for nearly \$1 million of classroom and lab renovations in Donovan (2018-21).

With the opening of the ZEN building at the Albany site, it has been possible to relocate a number of offices such that space is now available for health and wellness services, student study space, and temporary faculty/staff offices primarily used by individuals based at the Utica site. Recreational

programming has been possible in the open lobbies of the Albany site and has been well received. This is a first step toward establishment of extracurricular opportunities at the Albany site. Other pressing needs at the Albany site include laboratories, classrooms, and residence halls.

Residential Housing

A new residence hall is being planned for the Albany site and initial discussions have recently begun for an additional dormitory unit at the Utica site where campus housing is currently at full capacity. There is no campus housing at the Albany site – students are housed in a nearby hotel.

Presently, students studying at the Albany site can utilize one of two residential options. Those students who are UAlbany students (i.e. have not transferred to SUNY Poly) may live in UAlbany dormitories if they so choose. Students who are SUNY Poly students can elect to reside in a temporary housing unit at the Crest Hill Suites. This comprises an entire floor, is overseen by Residential Advisors, and has swipe-card security to the floor. A construction contract is being negotiated at this time (November 2015) for a 100 bed housing unit on the Albany site. It is expected to be ready for occupancy by the beginning of the 2017-18 academic year.

Both sites will experience shortfalls with regard to housing availability for several years. This is a serious concern inasmuch as quality of life is negatively affected.

Virtual Campus

SUNY Poly, especially at its Utica site, has been a pioneer in the utilization of distance learning approaches through online programs dating back to 1998, starting with humble total of 39 students (11 undergraduate and 28 graduate students) enrolled in distance learning courses. The online format allows SUNY Poly to expand its student recruitment territory. For many students, distance learning is the only opportunity available. Online courses and hybrid courses appear to be equivalent to classroom courses from a student learning and student satisfaction point of view. To continue its leadership with distance learning and to heighten the connectivity between the two sites, SUNY Poly aims to increase the deployment of sophisticated communication technology and virtual classroom arrangements. This is especially important for achieving the spirit of SUNY Excels access and completion goals. Currently as part of the SMARTT Labs initiative, SUNY Poly is creating a **Tele-Presence Studio** that will enhance communication between the Utica and Albany sites.

As of fall 2014, SUNY Poly's entire online enrollments had reached an all-time high of 1,223 of which 657 were undergraduate students and 566 were graduate students. See **Chart 1** for additional trend data.

Chart 1 SUNY Poly Online Enrollment Headcount Trend (1998 to 2014)



During the past five years, distance learning through online course and hybrid course offerings has hovered at around 28 percent of total courses offered. In-person (on- and off-campus) courses offerings have remained consistent at around 72 percent of total offered. **Table 24** below shows comparative trends for distance learning and in-person courses offered.

Table 24 SUNY Poly All Course Offerings by Type of Course

Mode and Type		% of Total Courses Offered				
		Fall 2010 (n=608)	Fall 2011 (n=614)	Fall 2012 (n=589)	Fall 2013 (n=665)	Fall 2014 (n=631)
Distance Learning	Online	14%	14%	13%	9%	10%
	Hybrid	14%	14%	16%	18%	16%
	Total DL	28%	28%	29%	27%	26%
In-Person	Off-Campus	3%	3%	1%	2%	1%
	On-Campus	69%	69%	70%	71%	72%
	Total IP	72%	72%	71%	73%	73%

Blackboard has recently been implemented as the campus-wide learning management system. It is available for all courses taught at SUNY Poly. Distance learning programs improve the likelihood of access and completion especially for non-traditional, working, and mobility-challenged populations while contributing to environmentally sustainable education. Accordingly, SUNY Poly anticipates expanding its current offering of online programs and courses through the use of robust and emergent communication technologies. Inexpensive experiential simulations, group discussion applications such as Google Hangout, Skype, and Collaborate along with video recording technology and streaming platforms have greatly improved the online learning experience in recent years. SUNY Poly is recruiting a Director of Distance Learning to provide essential leadership for further developing this important capacity.

Sustainability

SUNY Poly not only conducts research on various technologies that aim to improve sustainability, but also has been committed to helping create a sustainable campus community and world. From its “Green Team” webpages, it notes the following:

SUNY Poly will become an environmentally conscious campus that organizes itself around the following themes: academic integration, campus awareness, recycling, and energy conservation. In the fall of 2011, a class project for an undergraduate Environmental Sustainability course yielded SUNY Poly’s first-ever comprehensive greenhouse gas emissions inventory. The inventory report, covering emissions from 2001 – 2010, and projections to 2020, was presented to SUNY Poly’s President, Chief Operations Officer, and Director of Facilities at a joint meeting. Beyond measuring our carbon footprint, the inventory was the first step toward creating a Climate Action Plan to reduce emissions in the future and enabling signature of the American College and University President’s Climate Commitment (ACUPCC). In 2014, SUNY Poly received a Certificate of Honor for Environmental Stewardship from the U.S. Green Building Council New York Upstate Chapter. (SUNY Poly, n.d.: ¶1-3)

Currently, the Green Team is working to produce a campus-wide STARS "Light" report to fulfil a larger request by the former SUNY Central Sustainability Coordinator for all SUNY campuses. All of SUNY Poly's new construction meets the Leadership in Energy and Environmental Design (LEED) standards. LEED buildings are designed and built to be high performance in relation to energy savings, water efficiency, CO2 emissions, indoor environmental quality, and stewardship of resources and environmental impacts (USGBC, n.d.). On the Utica Site, the following buildings have LEED certifications or meet LEED standards:

- **Wildcat Field House, LEED Gold Certified**
- **Oriskany Residence Hall, LEED Silver Certified**
- **Student Center, designed to LEED Silver Standards**

On the Albany site, the newest building is the Zero Energy Nanotechnology (ZEN) building designed to produce more electric energy than it consumes.

In addition to a long list of sustainability innovations, the Wildcat Field House has ten (10) photovoltaic panels embedded in window glass above its main entrance. These panels produce about 960 KWh per year. In addition, there are solar thermal tubes on the field house as well which preheat the water for boilers. Plans are underway to install additional photovoltaic panels on its roof during the coming year.

In addition to making its facilities and campus sites more sustainable, SUNY Poly is dedicated to engaging students with meaningful sustainability leadership efforts and projects. For example, students actively participate in Green Team meetings. Student Residential Advisors have assisted with recycling initiatives and Campus Conservation Nationals residence hall energy and water conservation competitions. In addition, students participated in the State Park Clean Up Day in May 2014 and 2015.

As for current plans, SUNY Poly will offer Green Professional Building Skills Training (GPRO) Fundamentals and Operations & Maintenance specialty training on multiple dates during fall 2015. GPRO is a comprehensive national training and certificate program developed by Urban Green Council and USGBC New York. GPRO teaches the people who build, renovate, and maintain buildings the principles of sustainability combined with trade-specific green construction knowledge. More information about GRPO can be obtained at <http://gpro.org/courses/ome/>.

It is interesting to note recent findings from the Association for the Advancement of Sustainability in Higher Education (AASHE) most recent sustainability staffing survey which examines sustainability positions at US and Canadian colleges and universities. The AASHE 2015 report highlights that:

- *Since 2012, 87 respondents indicated that they entered into new, first-time positions in campus sustainability, with a significant spike in 2012. This demonstrates the continued growth of the campus sustainability profession since the last spike occurred in 2008. (AASHE, 2015: ¶13)*
- *The rate of institutions with at least one office, center or institute with “sustainability” in its name has increased from 71 percent in 2012 to 76 percent in 2015, indicating that sustainability is a growing priority in higher education. (AASHE, 2015: ¶16)*
- *There is an overall trend toward slightly higher median salaries in 2015 as compared to 2012 that suggests growing experience among sustainability staff. (AASHE, 2015: ¶17)*
- *Funding for sustainability through student sustainability fees or green funds increased from 4 percent in 2012 to 9 percent in 2015, which is indicative of growing student interest in addressing sustainability challenges. (AASHE, 2015: ¶18)*

Conclusion

This exciting new era for the constituents of the merged institution and the citizens of New York State. SUNY Poly is poised to seize the significant opportunities available at SUNY's only polytechnic institute. Substantial contributions to the prosperity of New York State are expected through innovating and amplifying the impact of technology. The pathway will be pursuit of the major imperatives, thematic strategies, "Big Ideas", and as well as implementation of operational improvements identified in this document. At this crucial juncture in the rebirth of New York State's economic might and community vibrancy, it is crucial that SUNY Poly invest in further growing its capacities and expanding its leadership of the Nanotech Corridor. The subsection below highlights the major needs and financial strategies necessary to fully invest in the future of SUNY Poly and New York State. Clearly there are high level plans that will be needed including a new Master Plan as well as annual facilities plans.

Major Needs and Financial Strategies

The operating budget for SUNY Poly is approximately \$33.7 million at this time. It is worth noting that, because of the merger, it is undergoing substantial change. It appears that the state support will be in the vicinity of \$12 million for the foreseeable future thus requiring that the difference be made up of student tuition and supplemental sources.

Table 25 shows the budget, sources and expenditures, for the past five years 2010-11 through 2014-15. The effect of the merger can clearly be seen as the changes from 2012-14 to 2014-15. Using the enrollment projections with faculty and staff projections through 2020 from the SUNY Performance Improvement Plan, it is possible to extrapolate expenditures through 2020-21. This has been done in **Table 25** using linear rates of growth. Similarly, tuition revenue can be predicted based on enrollment growth. In this case, it was assumed that SUNY would hold student tuition fixed on a per student basis. These projections result in an expenditure of approximately \$39 million by 2020-21. However, the tuition revenue will not rise sufficiently to balance that expenditure resulting in a need to raise nearly \$5 million from other sources. These data are consistent with the Performance Improvement Plan submitted to SUNY.

Program review is a SUNY requirement that SUNY Poly should use to guide the budget process. It is the case that accreditation processes are viewed as program reviews. It is also the case that disciplinary programs must rise to the expectation of accreditation agencies if they are not otherwise accredited. Program reviews and accreditation preparations should be used to determine whether resources should be increased or diminished to a specific department. New programs are, of course, predicated upon the proposal approved by SUNY and SED and usually require subsequent reports to insure they are on a track to self-sufficiency. It may occasionally be the case that program review demonstrates that a program is not viable any longer in which

case it should be closed according to the approved procedures (see **Appendix 1, Table A1.4** SUNY Poly Program Discontinuance Process).

Table 25 SUNY Poly Budget Trends By Revenues and Expenditures

Budget Trends in Thousands											
Type	Actual					Projected					
	AY 10-11	AY 11-12	AY 12-13	AY 13-14	AY 14-15	AY 15-16	AY 16-17	AY 17-18	AY 18-19	AY 19-20	AY 20-21
Revenues											
Tuition	\$11,068	\$11,835	\$12,030	\$12,467	\$14,219	\$14,800	\$15,400	\$16,000	\$16,500	\$17,300	\$18,200
State Support	\$7,423	\$6,553	\$6,609	\$6,609	\$12,045	\$12,000	\$12,000	\$12,000	\$12,000	\$12,000	\$12,000
IFR/SUTRA	\$3,857	\$3,608	\$4,232	\$4,167	\$3,859	\$4,000	\$4,000	\$4,000	\$4,000	\$4,000	\$4,000
Other	\$256	\$245	\$845	\$1,004	\$1,118	\$4,587	\$5,216	\$5,840	\$4,284	\$3,309	\$4,684
TOTAL	\$22,604	\$22,242	\$23,716	\$24,247	\$31,241	\$35,387	\$36,616	\$37,840	\$36,784	\$36,609	\$38,884
Expenditures											
Personnel Svc	\$16,230	\$15,533	\$15,058	\$14,369	\$23,753	\$24,347	\$24,941	\$25,530	\$26,128	\$25,853	\$28,028
Temp Svc	\$1,700	\$1,587	\$1,480	\$1,739	\$2,505	\$3,140	\$3,775	\$4,410	\$2,756	\$2,856	\$2,956
OTPS	\$4,350	\$3,983	\$3,632	\$6,745	\$7,493	\$7,900	\$7,900	\$7,900	\$7,900	\$7,900	\$7,900
TOTAL	\$22,280	\$21,103	\$20,170	\$22,853	\$33,751	\$35,387	\$36,616	\$37,840	\$36,784	\$36,609	\$38,884

Tuition – student paid plus financial assistance

State Support – allocation from New York State through SUNY

IFR/SUTRA – reimbursements; dormitories, food service, etc.

OTPS – other than personal service

Table 26 shows extramural funding history and projections. It is excerpted from the Performance Improvement Plan required by SUNY.

Table 26 SUNY Poly Extramural Funding

	Actual					Projected	
	AY 09-10	AY 10-11	AY 11-12	AY 12-13	AY 13-14	AY 18-19	AY 20-21
Sponsored Activity – Total (\$millions)	\$230,186,371.1	\$225,717,737.7	\$331,592,269.9	\$367,021,635.7	\$258,841,929.3	\$314.62	\$346.87
Sponsored Activity – Nonfederal	\$203,155,351.8	\$190,024,639.7	\$289,852,523.6	\$329,543,596.4	\$228,520,361.2	\$277.77	\$306.24
National Science Foundation R&D Total	\$214,468,968.0	\$248,778,785.0	\$265,474,074.0	\$374,175,125.0	\$412,851,000.0	\$501.82	\$553.26

Regarding particular budget considerations, Colleges and Departments have provided inventory of near-term faculty needs resulting from vacancies, accreditation, implementation requirements, enrollment growth, and retirements. These are all viewed as critical to sustain current operations and do not address new expansionary pursuits including Big Ideas or new program implementation and include: Computer Science, Cyber*⁶; Business Management, Accounting*; Arts and Sciences, Dean*; Nursing*; Physics; Chemistry; Mathematics; Computer Science; Engineering; and General Education.

Similarly, there are a number of staff positions that are critically important to the maintenance of current operations. There will certainly be additional needs once tactics for the Big Ideas and new degree programs are proffered through the plans of departments and colleges. These needs include: Student Success (Director); Distance Learning (Director)*; Associate Provost (Academic Affairs)*; Research, Outreach, and Instruction Librarian (2); Applied Learning (Director); First Tech Challenge (Director)*; and K-12 Outreach (Director)*

Finally, a number of exciting degree programs were proposed. Several are already well along the SUNY approval process while others are in the formative stages and include: Nanobioscience (PHD)*; Interactive Media and Game Design (BS)*; Interdisciplinary (BS)*; Systems Engineering (MS)*; Doctor of Nursing Practice (D); Adult/ Gerontological Nurse Practitioner (MS)*; Applied Sociology (MS); Biomedical Engineering (BS); Applied Mathematics (MS); Engineering (MS & PHD ALL DISCIPLINES); Information Sciences (PHD); Data Science (MS & PHD); and Computer Science (PHD).

There are a number of critical facility needs that will have to be met sooner rather than later. Residence halls at both sites fall into this category. There are no dormitory facilities at the Albany site (but one is in the final planning stage). The dormitory facilities at the Utica site are presently essentially full (with many double rooms now tripled). Likewise, both sites suffer from

⁶ Asterisks (*) throughout indicate already in-process at some stage.

saturated office, laboratory, and classroom availability. Growth will require solution very soon in one to two years. Finally, recreational facilities are non-existent at the Albany site and neither site has any space for the performing arts. Facilities needed include: Residence Hall Albany Site; Residence Hall Utica Site; Advanced Technology Center Utica Site; Performing Arts Center Utica Site; and Recreational Center Albany Site.

Looking Forward

This Strategic Plan envisions a path forward which will enable SUNY Poly to achieve its full potential through both capacity development and expansionary ideas. SUNY Poly has synthesized this path from the enormous volume of great ideas arising from open meetings as well as written input from constituents. Furthermore, this path is not only a bold one that will require hard work and resources to follow, but also one that will have enormous impact on the prosperity of New York. To succeed, SUNY Poly must continue to build a substantial reputation of excellence. It will have to fully utilize its Innovation Centers and other partnerships throughout the State. Even more importantly, it will be critically important for it to pursue interface disciplines that can bring its disciplinary resources to focus on the grand challenges that face our society. To succeed, SUNY Poly will need to break free from constraints that too easily prevent new directions from being achieved. Paramount among those challenges are state support which only accounts for a third of operating costs, low percentage of women and minorities in STEM fields, and changing demographics of high school populations. Achieving an integrated institution, student centeredness, and student success must be the primary objectives of the SUNY Poly community with the recruitment and retention of superb faculty and staff a close second.

Clearly, it will be necessary to substantially increase the capabilities of many supporting functions in order to achieve these strategic imperatives. The merger of SUNYIT and CNSE brought together two very different cultures neither of which will be the end point. Rather a new equilibrium will be attained which would best be achieved as soon as possible. Challenges such as cultural differences and the physical distance between the two sites pose serious capacity problems. However, these challenges when creatively addressed by the diverse collective intelligence that is SUNY Poly will make the institution stronger, more distinctive, and capable—all with the overarching aim of producing new technological knowledge and nurturing leaders for more vibrant and economically sustainable communities.

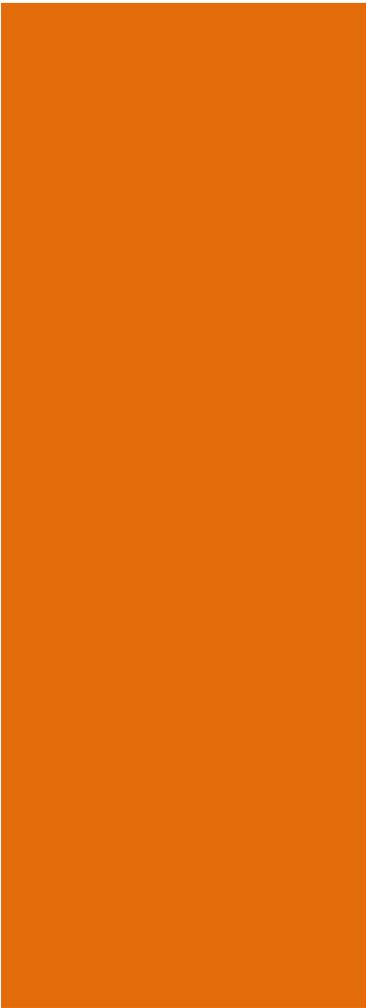
Appendices

Appendix 1: Institutional Objectives and Implementation

Based on the task force’s development of imperatives (goals) and thematic strategies, SUNY Poly has developed new institutional objectives (IOs) as delineated in **Table A1.1** below. The table delineates objectives mapped to clusters of imperatives and thematic strategies as well as the SUNY Excels goals. **Table A1.2** below identifies the implementation plan for institutional objectives. Currently, the Working Group is assisting the various responsible departments to develop specific performance measures for each objective. Measures will be derived from the SUNY Poly Data for SUNY Excels as delineated in **Appendix 7**. This activity is expected to be complete by late December 2015.

Table A1.1 SUNY Poly Institutional Objectives by Imperatives and Thematic Strategies

SUNY POLY INSTITUTIONAL OBJECTIVES	
Imperatives and Thematic Strategies	Institutional Objectives
<p>SPI 1 Integrated and Differentiated University</p> <p><i>TS 1 Programs: New or Emerging Discipline Programs</i></p> <p><i>TS 2 Institute: Create Fully Functioning Institution</i></p> <p><i>TS 3 Capabilities: Strengthen Existing Capabilities</i></p> <p><i>TS 4 Virtuality</i></p>	<p>IO 1.1: Realize the full potential and advantages of multi-site merger to become the premier polytechnic institute in New York State.</p> <p>IO 1.2 Strengthen growing national and global reputations as a leading university for technology.</p> <p>IO 1.3: Develop new or individualized programs of study that cross disciplines, allowing for rapid response to emerging demands.</p> <p>IO 1.4: Establish new undergraduate and graduate degree programs that advance the development, application, understanding, and diffusion of Science and Technology.</p> <p>IO 1.5: Complete the process of creating a single SUNY university to serve NYS high tech and high-demand professionals.</p> <p>IO 1.6: Support excellence in research, teaching/learning and service.</p> <p>IO 1.7: Ensure quality academic programs through disciplinary accreditation (when possible) or program review.</p> <p>IO 1.8: Recruit outstanding faculty and staff.</p> <p>IO 1.9: Provide faculty and staff with opportunities for professional growth, orientation, and mentoring.</p> <p>IO 1.10: Recruit visiting faculty and scholars in residence.</p> <p>IO 1.11: Establish chaired or sponsored professorships.</p> <p>IO 1.12: Celebrate and reward faculty and staff accomplishments.</p> <p>IO 1.13: Develop clear plan and structure for SUNY Poly such that constituent needs are supported.</p> <p>IO 1.14: Reduce dependence on physical location and increase collaboration through technology-mediated communication.</p>



- IO 1.15: Increase and enhance online course offerings.**
- IO 1.16: Integrate distance learning services.**
- IO 1.17: Define and create an IT Infrastructure to meet current and future needs of SUNY Poly.**
- IO 1.18: Create a new facilities master plan.**
- IO 1.19: Maximize utilization of campus and facilities to support a vibrant community.**
- IO 1.20: Increase overall enrollments.**
- IO 1.21: Increase operational efficiencies to reduce costs.**
- IO 1.22: Increase transparency in university operations.**
- IO 1.23: Support enactment of SUNY Poly strategic plan by developing localized strategic planning processes in each college.**

Note: For comparative use, relevant institutional objectives from the previous SUNYIT strategic plan are included below.

Objective 1.4: Increase Enrollment to 2500 FTE such that Fixed Costs are Distributed; Objective 1.5: Reduce non-Instructional Costs; Objective 1.6: Implement Shared Services When Appropriate; Objective 1.8: Ensure Residence Hall and Dining Services are Fully Subscribed; Objective 2.1: Establish new Degree Programs that Advance the Development, Application, and Understanding of Science and Technology such as Engineering and Mathematics; Objective 2.2: Ensure Quality Academic Programs through Disciplinary Accreditation (whenever possible) or Program Review.; Objective 4.1: Establish New Graduate Degree Programs in Critically Important Areas; Objective 5.5: Increase and Enhance online course offerings; Objective 6.1: Recruit Outstanding Faculty and Staff; Objective 6.2: Provide Opportunities for Professional Growth; Objective 6.3: Provide Orientation and Mentoring; Objective 6.4: Recruit Visiting Faculty and Scholars in Residence; Objective 6.5: Establish Chaired Professorships; Objective 6.6: Celebrate and Reward Accomplishments; Objective 7.1: Define and Create an IT Infrastructure to Meet Current and Future Needs of SUNYIT. Maximize Use of SUNY System IT initiatives such as ITEC.; Objective 7.2: Implement the Facilities Master Plan; Objective 7.4: Maximize Utilization of Campus and Facilities to Support a Vibrant Community; Objective 7.5: Enhance Residential Character of Campus; Objective 7.6: Integrate Distance Learning Services; Objective 8.2: Strengthen the Campus Community; and Objective 8.3: Increase Transparency in College Operations.



SPI 2 Student Centeredness
TS 5 Learning: Engage in Experiential (Applied) Learning
TS 6 Infrastructure: Develop Student-Centered Infrastructure
TS 7 Diversity
TS 8 Globalization

- IO 2.1: Shift processes, structures, and culture to holistically optimize student engagement, learning experiences, and overall success.**
- IO 2.2: Develop expertise and capacity to lead applied learning in SUNY and serve as broker to others.**
- IO 2.3: Strive to adopt best practices for applied learning throughout all curricula.**
- IO 2.4: Encourage innovative pedagogies.**
- IO 2.5: Ensure diversity of perspective in learning, problem solving, and scholarly, and creative work.**
- IO 2.6: Expand project-based learning, service-based learning, and experiential learning opportunities.**
- IO 2.7: Offer global internship placement services to others in SUNY, NYS, & US.**
- IO 2.8: Recognize and provide infrastructure required for transformative student experience.**
- IO 2.9: Develop robust structure that specifically supports world-class graduate education and research.**
- IO 2.10: Foster technological and cultural literacy as essential elements of a SUNY Poly education through academic programs, facilities, and co-curricular activities**

	<p>IO 2.11: Integrate student services to provide seamless experience and student satisfaction.</p> <p>IO 2.12: Increase and enhance extracurricular/co-curricular activities especially clubs, professional societies, intramural and intercollegiate sports, and cultural programming.</p> <p>IO 2.13: Increase support for transfer and non-traditional students such as Increasing hours of operation, implementing online orientation, and hosting periodic social gatherings.</p> <p>IO 2.14: Improve advising process and effectiveness.</p> <p>IO 2.15: Create collaboration and work spaces for students.</p> <p>IO 2.16: Align institutional demographics with emerging U.S. trends and welcome diverse traditions and ideas.</p> <p>IO 2.17: Improve academic profile of undergraduate student body and increase freshman/sophomore retention.</p> <p>IO 2.18: Increase undergraduate enrollment through domestic and international recruitment and additional scholarship support.</p> <p>IO 2.19: Increase graduate enrollment through domestic and international recruiting.</p> <p>IO 2.20: Increase student success and completion rates.</p> <p>IO 2.21: Increase efforts to provide global perspective through exchanges and invited guests.</p> <p>IO 2.22: Prepare students to be responsible and ethical citizens of our global community.</p>
	<p>Note: For comparative use, relevant institutional objectives from the previous SUNYIT strategic plan are included below.</p> <p><i>Objective 2.3: Foster Technological and Cultural Literacy as Essential Elements of a SUNYIT Education through Academic Programs and Co-Curricular Activities; Objective 2.4: Improve Academic Profile of Undergraduate Student Body and Increase Freshman/Sophomore Retention; Objective 2.6: Increase Undergraduate Enrollment through Domestic and International Recruitment and Additional Scholarship Support; Objective 3.1: Promote Student Engagement; Objective 3.2: Integrate Student Services to Provide Seamless Experience; Objective 3.3: Increase and Enhance Extracurricular/Co-curricular Activities especially Clubs, Professional Societies, Intramural and Intercollegiate Sports, and Cultural Programming; Objective 3.4: Increase Support for Transfer and Non-Traditional Students such as Increasing Hours of Operation, Implementing Online Orientation, and Hosting Periodic Social Gatherings; Objective 3.5: Improve Advising Process and Effectiveness; Objective 4.2: Increase Graduate Enrollment through Domestic and International Recruiting to 500 FTE; Objective 5.1: Encourage Innovative Pedagogies; Objective 5.2: Ensure Diversity of Perspective in Learning, Problem Solving, and Scholarly, and Creative Work; Objective 5.4: Promote Project-Based Learning, Service-Based Learning, and Experiential Learning; Objective 7.3: Create Collaboration and Work Spaces for Students; Objective 8.1: Prepare Students to be Responsible, Ethical Citizens of our Global Community; and Objective 8.5: Expand Experiential Learning Opportunities.</i></p>
<p>SPI 3 Impactful Scholarship</p> <p><i>TS 9 Capacity: Develop Human Capacity</i></p> <p><i>TS 10 Culture: Develop Culture of Resourcefulness</i></p>	<p>IO 3.1: Enhance scholarly abilities and funding approaches to grow overall research capacity.</p> <p>IO 3.2: Develop SUNY Poly faculty, staff, and students so that they are able to contribute to institutional goals, especially expanding research capacity.</p> <p>IO 3.3: Develop common understanding that everyone can/should attract resources to support SUNY Poly endeavors.</p> <p>IO 3.4: Increase sponsored program support.</p> <p>IO 3.5: Increase sponsored research funding.</p> <p>IO 3.6: Increase alumni support.</p>

	<p>IO 3.7: Increase philanthropic support.</p> <p>IO 3.8: Increase state support in accordance with special mission.</p> <p>IO 3.9: Develop undergraduate research programs.</p> <p>IO 3.10: Develop robust graduate research programs.</p> <p>Note: <i>For comparative use, relevant institutional objectives from the previous SUNYIT strategic plan are included below.</i></p> <p><i>Objective 1.1: Increase Sponsored Program Support; Objective 1.2: Increase Alumni Support; Objective 1.3: Increase Philanthropic Support; Objective 1.7: Increase State Support in Accordance with Special Mission; Objective 2.5: Develop Undergraduate Research Programs; and Objective 4.3: Increase Sponsored Research Funding.</i></p>
<p>SPI 4 Economic Vitality</p> <p><i>TS 11 Community: Community Engagement</i></p> <p><i>TS 12 Entrepreneurship</i></p>	<p>IO 4.1: Collaborate with diverse constituencies to create robust and innovative development clusters (based on triple helix model of cooperation) that enhance the economic vitality and sustainability of NYS communities.</p> <p>IO 4.2: Have greater impact on society by engaging with local communities & strengthening the K-16 pipeline.</p> <p>IO 4.3: Focus applied scholarship on community projects that benefit local society and give students experience with real life situations.</p> <p>IO 4.4: Develop and support entrepreneurship skills in faculty, staff, and students and incentivize commercialization (transfer) of novel products and approaches.</p> <p>IO 4.5: Provide opportunities for students to learn from local entrepreneurs and work on real life business issues.</p> <p>IO 4.6: Encourage students & faculty to invent.</p> <p>IO 4.7: Build on strengths and opportunities such as Nanotechnology, Cybersecurity, Biomedical Devices, etc.</p> <p>IO 4.8: Expand alumni engagement and volunteerism.</p> <p>Note: <i>For comparative use, relevant institutional objectives from the previous SUNYIT strategic plan are included below.</i></p> <p><i>Objective 4.4: Build on Strengths and Opportunities such as Nanotechnology, Cybersecurity, and Biomedical Devices; Objective 5.3: Pursue Entrepreneurship and Technology Transfer; Objective 8.4: Expand Alumni Engagement and Volunteerism; and Objective 8.6: Strengthen Community Engagement Opportunities.</i></p>

Table A1.2 SUNY Poly Implementation Plan for Institutional Objectives

Implementation Plan										
Institutional Objectives		SUNY Excels					Key Performance Measures			
Objectives	Primary Office	Access	Completion	Success	Inquiry	Engagement	M1	M2	M3	M4
1.1 Strengthen growing national and global reputations as a leading university for technology.	Public Relations	●	●	●	●	●	# of grants	Invited talks/addresses	National awards	Increase in Tier 1 applications
1.2: Develop new or individualized programs of study that cross disciplines, allowing for rapid response to emerging demands.	Deans	●	●	●	●	●	# of new interdisciplinary programs			
1.3: Establish new undergraduate and graduate degree programs that advance the development, application, understanding, and diffusion of Science and Technology.	Provost	●	●	●	●	●	# of new programs			
1.4: Complete the process of creating a single SUNY university to serve NYS high tech and high-demand professionals.	Provost	●	●	●	●	●	Unified website	# of grads in high needs areas		
1.5: Support excellence in research, teaching/learning and service.	Provost	●	●	●	●	●	# of Internal Awards	# of Workshops	Mentoring Programs to Support Teaching/Research	Establish HILT Center
1.6: Ensure quality academic programs through disciplinary accreditation (when possible) or program review.	Provost	●	●	●	●	●	100% of programs qualified for accreditation will be accredited	Implementation of program reviews for non-accredited programs		
1.7: Recruit outstanding faculty and staff.	Colleges	●	●	●	●	●	Increase number of faculty by 10%	Increase staff by 5%	Increase in faculty pubs by 15%	10% improvement in teaching evaluations as measured by SOS &

										existing course evals
1.8: Provide faculty and staff with opportunities for professional growth, orientation, and mentoring.	Deans	●	●	●	●	●	Establish formal faculty mentoring program	Enhance faculty orientation	Increase faculty participation by 10% in attendance at professional mtgs	
1.9: Recruit visiting faculty and scholars in residence.	Deans	●	●	●	●	●	Increase by 5% number of visiting scholars			
1.10: Establish chaired or sponsored professorships.	Deans	●	●	●	●	●	Increase by 5%			
1.11: Celebrate and reward faculty and staff accomplishments.	Public Relations	●	●	●	●	●	Establish annual faculty awards banquet	Establish Provost newsletter		
1.12: Develop clear plan and structure for SUNY Poly such that constituent needs are supported.	COO	●	●	●	●	●	Creation of Plan			
1.13: Increase and enhance online course offerings.	Deans	●	●	●	●	●	Dir of DL position	Increase by 10% number of online courses	Establish Dir of DL position	
1.14: Define and create an IT Infrastructure to meet current and future needs of SUNY Poly.	Information Technology	●	●	●	●	●	IT Strategic Plan			
1.15: Create a new facilities master plan.	COO	●	●	●	●	●	Update FMP			
1.16: Maximize utilization of campus and facilities to support a vibrant community.	Events	●	●	●	●	●	Increase by 10% number of events held on campus			
1.17: Increase overall enrollments.	Enrollment Manag'nt	●	●	●	●	●	2,755 AAFTE by Fall '20	3500 headcount by Fall '20		
1.18: Increase operational efficiencies to reduce costs.	COO	●	●	●	●	●	Decrease by 5% non-			

							instructional costs			
1.19: Increase transparency in university operations.	COO	●	●	●	●	●	Publish budget			
1.20: Support enactment of SUNY Poly strategic plan by developing localized strategic planning processes in each college.	Deans	●	●	●	●	●	100% of Colleges with SP			
2.1: Develop expertise and capacity to lead applied learning in SUNY and serve as broker to others.	Applied Learning Team	●	●	●	●		Establish HILT Center	# of applied learning workshops	# of applied learning projects	
2.2: Adopt best practices for applied learning in all disciplines.	Applied Learning Team	●	●	●	●		80% use of best practices for applied learning experiences			
2.3: Encourage innovative pedagogies.	Provost	●	●	●	●		Establish grant program for innovative pedagogies through HILT Center	Sponsor faculty forum for innovative pedagogies		
2.4: Encourage diversity of perspective in learning, problem solving, and scholarly, and creative work.	Deans	●	●	●	●		Increase by 10% interdisciplinary courses	Increase by 10% interdisciplinary projects	Increase by 10% interdisciplinary research	
2.5: Expand project-based learning, service-based learning, and experiential learning opportunities.	Deans	●	●	●	●		Increase by 10% number of applied learning opportunities for students	Increase by 10% partnerships for development of applied learning opportunities		
2.6: Recognize and provide infrastructure required for transformative student experience.	Student Affairs	●	●	●	●		Increase by 10% number of extracurricular activities offered	Increase by 5% speakers	Increase by 10% number of applied learning experiences	Increase by 10% opportunities for students to engage in

										community service
2.7: Develop robust structure that specifically supports world-class graduate education and research.	Deans	●	●	●	●		Sustain xx number of slots for graduate education	Increase by 10% research opportunities for graduate students		
2.8: Foster technological and cultural literacy as essential elements of a SUNY Poly education through academic programs, facilities, and co-curricular activities	Deans	●	●	●	●		Create plan to incorporate technological and cultural literacy in gen ed, and program disciplines			
2.9: Integrate student services to provide seamless experience and student satisfaction. (ALBANY?)	Student Affairs	●	●	●	●		Create one-stop shop for student services	Increase by 10% satisfaction ratings on SOS		
2.10: Increase and enhance extracurricular/co-curricular activities especially clubs, professional societies, intramural and intercollegiate sports, and cultural programming. (ALBANY?)	Student Affairs	●	●	●	●		Increase by 10% number of extracurricular/co-curricular activities			
2.11: Increase support for transfer and non-traditional students such as Increasing hours of operation, implementing online orientation, and hosting periodic social gatherings. (ALBANY?)	Student Affairs	●	●	●	●		Increase by 2 the hrs of operation	Implement online orientation	Sponsor 3 social gathering per/semester	
2.12: Improve advising process and effectiveness.	Provost	●	●	●	●		Establish Student Success Office	Student success retreat	Increase satisfaction scores on SOS	
2.13: Create collaboration and work spaces for students.	Operations	●	●	●	●		Increase by 10% number of spaces			
2.14: Align institutional demographics with emerging U.S. trends and welcome diverse traditions and ideas.	Enrollment Manag'nt	●	●	●	●		Increase by 10% number of	Increase by 10% number of		

							minorities	internationals		
2.15: Improve academic profile of undergraduate student body and increase freshman/sophomore retention.	Enrollment Manag'nt	●	●	●	●		Increase Tier 1 students by 20%	Improve retention by 20%		
2.16: Increase student success and completion rates.	Student Success	●	●	●	●		1 st yr retention rate at 85% by F '20	6 yr Bach. grad. rate at 60% by F '20	Full-time faculty at 60% by F '20	
2.17: Prepare students to be responsible and ethical citizens of our global community.	Deans	●	●	●	●		Introduce ethics courses in each major	Introduce ethics into general education courses		
3.1: Increase sponsored research funding.	Research				●	●	Increase by 10% number of awards			
3.2: Increase alumni support.	Develop'nt				●	●	Increase alumni donation by 10%	Increase number of alumni participating by 10%		
3.3: Increase philanthropic support.	Develop'nt				●	●	Increase philanthropic support by 5%			
3.4: Increase state support in accordance with special mission.	COO				●	●	Increase state support by 5%			
3.5: Develop undergraduate research programs.	Research				●	●	Create at least 2 UG research programs			
3.6: Develop robust graduate research programs.	Research				●	●	Graduate 20+ PhDs/yr. by F '22	25-30 research PHD enrolls/yr	30 research advisors	\$1 million + per year student support
4.1: Engage with local communities and strengthen the K-16 pipeline	Provost			●	●	●	Increase by 10% number of summer	Establish template for partners	Track number of talks, workshops and	

							programs offered for 6-12 pipeline	hips with K-16	consultations provided by faculty for K-16	
4.2: Develop and support entrepreneurship skills in faculty, staff, and students and incentivize commercialization (transfer) of novel products and approaches.	Research			●	●	●	Increase number of invention by 10%	Increase by 10% number of start ups	Increase by 10% participation in Maker Faire and Business Challenge	

Table A1.3 SUNY Poly Process for Establishing New Expansion Initiatives and Projects (e.g., Academic Programs, Non-Academic Programs, Institutes, Centers, etc.)

Process for Establishing New Expansion Initiatives and Projects	
Annual Step	Summary Description
STEP 1: Establish Leadership Team	<p>Frames the initiative in light of SUNY Poly’s mission and goals. Prepares the proposal and guides it through the approval process. Facilitates consultation with faculty governance. Iterates to optimize the strength of the proposal.</p> <p>The leadership team can be formed through departments, colleges, or any group having expertise and interest.</p>
STEP 2: Elements of Proposal	<p>Proposals should include all elements necessary for a thorough understanding of the impact.</p> <ul style="list-style-type: none"> • <i>Vision, mission, purpose, and rationale</i> • <i>Program components</i> • <i>Academic or other requirements</i> • <i>Strategic and operational impact on institution</i> • <i>Resources and support needed</i> • <i>Outcomes and assessment</i> • <i>Budget and financial strategies</i>
STEP 3: Proposal Review	<p>Proposals will be reviewed in light of the institutional mission and vision as well as their impact on the quality of academic programs, the reputation of the institution, and the economic prosperity of the State. Reviews will be conducted by appropriate administrative offices and consultation will be provided by appropriate governance committees.</p>

STEP 4: Presentation	As a final step, all proposals will be presented to the community in an open forum prior to a final iteration.
STEP 5: Presidential Review	The Provost will forward complete proposals to the President.

Table A1.4 SUNY Poly Process for Discontinuance of Academic Programs

Process for Discontinuance of Academic Programs	
Annual Step	Summary Description
STEP 1: Collect Program Data	Provost and Deans annually collect data from Faculty and Staff for internal program evaluations based on the criteria set forth in the Program Discontinuance Policy document (PDP approved by Faculty Assembly in February 2012). (SUNYIT, 2012a)
STEP 2: Conduct Program Evaluations	Provost and Deans in collaboration with Faculty (as advisors) use collected data to evaluate all academic programs per the following general PDP criteria: <ul style="list-style-type: none"> • <i>Centrality to mission</i> • <i>Do no harm (financially)</i> • <i>Enrollment trends</i> • <i>Inter-relatedness with other programs</i> • <i>Program sustainability</i> • <i>Relative cost</i> • <i>Academic quality</i>
STEP 3: Program Determinations and Actions	Provost and Deans determine which, if any, programs should be discontinued and take appropriate actions, “Path 1” or “Path 2”, as delineated in the Program Discontinuance Policy document.
STEP 4: Discontinue Programs	Deans work with Faculty to discontinue, if any, selected programs.

Appendix 2: Planning Process Overview

Strategic Planning Process Overview

Table A2.1 and the descriptions below provide a timeline review of the strategic planning milestone activities and outcomes that occurred between January and July 2015. Furthermore rosters for the various strategic planning governing bodies including the Steering Committee, Process Facilitators, and Task Force are delineated in Table A2.2.

Table A2.1 Strategic Planning Timeline

Date	Milestone Event
16 January 2015	Task force appointed
20 January 2015	Charge and process determined
27 February 2015	Task force conducts SWOT analysis
4 - 27 March 2015 and 7 April – 5 May 2015	Task force collects SWOT analysis input from core constituents
10 April 2015	Task forces conducts TOWS activity to determine “big ideas”
17 April 2015 and 24 April 2015	Provost and facilitators hold Town Hall meetings to share formative strategic planning results and solicit feedback and additional big ideas
13 May 2015	Task force incorporates feedback and prioritizes big ideas
June – November 2015	Provost and others finalize strategic plan and share with core constituents
15 December 2015	Task force members met to discuss modifications to Strategic Plan
12 January 2016	President/Governance Meeting – President requested Governance review Strategic Plan
March – May 2016	Governance reviewed faculty input
24 May 2016	Task force met to discuss inputs to Strategic Plan
June 2016	Strategic Plan updated based on discussions/input
3- November 2016	Final editorial review

Descriptions of Milestone Events:

16 January (Albany and Utica via Video Conference): The strategic planning task force and steering committee including faculty, staff and student representatives from the Albany and Utica sites was appointed.

20 January (Utica): The task force received its official strategic planning charge from president Kaloyeros. The planning process was discussed and finalized.

27 February (Albany): Task force engaged in environmental scanning by conducting a SWOT (Strengths, Weaknesses, Opportunities and Threats) exercise to define context for the planning process.

4 - 27 March and 7 April – 5 May (via Survey Monkey): Task force SWOT results were shared with faculty, staff and students at both sites. Everyone was invited to contribute additional ideas to the analysis by completing a web-based Survey Monkey questionnaire. 107 individuals in Utica and 55 in Albany completed the survey. Comments that frequently appeared were added to the original SWOT list.

10 April (Utica): Task force engaged in a TOWS (Threats, Opportunities, Weaknesses & Strengths) cross tabulation exercise that resulted in a set of big ideas or themes that will inform the strategic plan expansion and capacity building institutional goals.

17 April (Albany) and 24 April (Utica): Town Hall meetings were held at both sites to share formative strategic planning results and solicit feedback and additional big ideas. Faculty, staff and students were invited to send additional ideas to the Provost by early May. The big ideas were refined and a few new ideas were added based on feedback.

13 May (Utica): The Task Force met to prioritize the big ideas and recommend approaches to continue the planning at the college and department levels during the 2015/16 academic year.

June – November (varied, Albany and Utica): The strategic plan was refined based on the big ideas and task force input. The draft strategic plan was shared with faculty, staff and students for input and modification.

15 December (Utica and Albany via Video Conference): The strategic planning task force met to discuss suggested modifications to the strategic plan that were received from the college community.

12 January (Utica and Albany via Video conference): President's meeting with Governance. On January 27, President requested that Governance take a final look at Strategic Plan before issuing as final.

March – May: Governance reviewed faculty inputs.

24 May (Utica and Albany via Video Conference): The strategic planning task force met consider all inputs.

June: Strategic Plan updated based on Task Force discussion and inputs.

3 November (Utica): Final editorial review.

Table A2.2 Rosters for Strategic Planning Governing Bodies

Governing Body	Membership Roster	
Steering Committee	A. Kaloyeros (Chair)	
	W. Durgin	
	R. Geer	
	R. Fuller	
Process Facilitators	M. Liehr	
	R. Edgell	
Task Force	D. Tyksinski	
	S. Bateman	M. Heyboer
	T. Begley	J. Joseph
	A. Bellinger	S. Jois
	J. Castracane	V. LaBella
	J. Das	M. Lyons
	L. Dean-Kelly	J. Marsh
	A. Diebold	D. Pasick
	D. Collier	S. Perta
	S. Engelberth	S. Pritting
	M. Fancher	S. Schneider
	A. Feole	Z. Thomova
	V. Fusco	D. Watson
	R. Haines	D. White
	P. Haldar	A. Wolfe
	S. Head	R. Yeh
Working Group	W. Durgin	
	R. Edgell	
	R. Fuller	

	V. Fusco J. Joseph M. Lyons M. Perrone D. White
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Appendix 3: Environmental Scanning (SWOT) Results

SWOT Exercise

A critical strategic planning step was an analysis of the institution’s internal and external environments. The task force used a SWOT approach for this analysis as follows:

- **Internal Environment**
 - S – Institutional **Strengths**
 - W – Institutional **Weaknesses**

- **External Environment**
 - O – Institutional **Opportunities**
 - T – Institutional **Threats**

Tables A3.1 to A3.4 below describe the major and secondary SWOT attributes identified by the task force and other constituents.

Table A3.1 Internal Environment—*Strengths*

Type	Major	Secondary
Strengths	Reputation	<ul style="list-style-type: none"> Faculty have a strong global and national reputations Good reputation for high-impact community outreach Research portfolio and reputation are internationally recognized
	Attractive Campuses & Programs	<ul style="list-style-type: none"> Able to attract very good students Students learn in a real life hands-on environment Attractive and unique curricula Safe campuses Impressive buildings, infrastructure, and physical locations.

		<ul style="list-style-type: none"> • Affordable high quality education
	Strong Relationships	<ul style="list-style-type: none"> • Close relationship with NYS government • Strong outreach and partnerships with industry • Engagement of faculty with students

Table A3.2 Internal Environment—*Weaknesses*

Type	Major	Secondary
Weaknesses	Scarce Resources	<ul style="list-style-type: none"> • Staffing insufficient in numbers and quality • Inadequate space • Insufficient information technology infrastructure • Financial limitations - scholarships, new faculty lines
	Merger and Change Issues	<ul style="list-style-type: none"> • Weak organizational structure and incomplete paths of communication • Cultural anxiety perhaps caused by change and uncertainty • Cultural differences between sites - faculty, staff, students • Need clear plan to share course offerings between two campuses • Need clear plan for faculty and staff development
	Institutional Characteristics	<ul style="list-style-type: none"> • Lack of cohesive academic program marketing • Distance between sites, transportation, and communication • Student, faculty and staff diversity insufficient • Campus life insufficient

Table A3.3 External Environment—*Opportunities*

Type	Major	Secondary
Opportunities	Expand Community Engagement Efforts	<ul style="list-style-type: none"> • Enhance STEM educational outreach • Strengthen partnerships with other colleges to support recruitment • Expand community outreach
	Adopt Distinctive Pedagogy	<ul style="list-style-type: none"> • Employ service-based learning • Fully engage corporate based projects • Adopt project based learning as central pedagogy • Utilize Open SUNY to develop new markets • Establish a global perspective program • Expand online learning capability
	Attract Resources Through Strategic Partnerships	<ul style="list-style-type: none"> • Strengthen advisory boards as experts in their fields, including alumni and industry partners • Utilize industry partners as adjuncts and sources of internships

- Secure federal funding and research partnerships, as for example, cyber security
- Increase support for faculty research

Table A3.4 External Environment—*Threats*

Type	Major	Secondary
Threats	Difficult to Adapt to External Forces	<ul style="list-style-type: none"> • Changing accreditation requirements and cost of gaining and maintaining accreditation • Educational mandates - federal, state, SUNY • Controlling cost of higher education - faculty, staff, infrastructure, IT • Decreasing pool of traditional students • Changing demographics of new students
	Mature Competitor Advantages	<ul style="list-style-type: none"> • Student services and amenities offered by our competitors • Competitors are established, mature • Lack of clear brand • Lack of stability in administration – unsettling for faculty, staff, students • Retention of faculty and staff during time of change & uncertainty
	Enrollment Challenges	<ul style="list-style-type: none"> • Retention challenges of a diverse student body • Attraction of student to difficult STEM programs
	Limited Resources	<ul style="list-style-type: none"> • Rising costs of learning resources - texts, journals, databases • Rising costs of maintaining scholarship - travel, collaboration, graduate student support, lab equipment

Table A3.5 SUNY Poly Current Degree Programs Enrollments or Students Served

Current Degree Programs Enrollments or Students Served (Fall 2015)					
Site	College and Department (Constellation)	Degree Program	Enrolled Students	Students Served	
Utica Site Enrollments					
College of Arts and Sciences⁷					
	Math and Sciences:	BS Applied Mathematics	15		
		BS Biology	56		
	Communication and Humanities:	BS Communication and Information Design (accelerated BS/MS)	76		
		MS Information Design and Technology	65		
		BA Interdisciplinary Studies	13		
	Social Sciences:	BA Psychology	79		
		BA Sociology	39		
		Undeclared Major (Undergraduate)	36		
	CAS Total Undergraduate			314	
	CAS Total Graduate			65	
	CAS Total All			379	
	College of Engineering				
		Computer and Information Sciences:	BS Applied Computing	0	
			BS Computer and Information Science (accelerated BS/MS)	236	
BS Computer Information Systems			63		
BS Network and Computer Security			125		
MS Computer and Information Science			101		
MS Network & Computer Security			20		
MS Telecommunications			51		
CAS Data Analysis			0		

⁷ Given General Education requirements, the College of Arts and Sciences serves nearly all incoming freshman students and a portion of transfer students regardless of degree program (students served for CAS is not shown). F'15 there were 164 section noted as General Education.

Engineering Technology:	BS Civil Engineering Technology	80	
	BS Computer Engineering Technology	70	
	BS Electrical Engineering Technology	73	
	BS Mechanical Engineering Technology	135	
Engineering:	BS Civil Engineering	60	
	BS Electrical and Computer Engineering	73	
	BS Mechanical Engineering	78	
	MS Advanced Technology	0	
CE Total Undergraduate		993	
CE Total Graduate		172	
CE Total All		1165	

College of Health Sciences and Management

Business Management, Accounting:	BS Accounting	95	
	MS Accountancy	65	
Business Management, Business:	BS, BBA Business Administration	205	
	MBA in Technology Management	124	
Community and Behavioral Health:	BS Community and Behavioral Health	50	
Nursing:	BS Nursing (accelerated BS/MS)	132	
	MS Nursing w/major in Family Nurse Practitioner	127	
	MS Nursing w/major in Nursing Education	78	
	CAS Family Nurse Practitioner	8	
	CAS Nursing Education & Other (MS NA)	1	
Health Information Management:	BS, BPS Health Information Management	93	
	Undeclared Major (Undergraduate Nursing)	31	
CHSM Total Undergraduate		606	
CHSM Total Graduate		403	
CHSM Total All		1009	

Albany Site Students Served⁸			Enrolled Students	Students Served
College of Nanoscale Sciences				
Nanoscience and Nanobioscience Constellations	BS Nanoscale Science		6	35
	MS Nanoscale Science		0	1
	PHD Nanoscale Science		0	36
	Undeclared Major (Undergraduate) - Nano		17	0
CNS Total Undergraduate				47
CNS Total Graduate				47
CNS Total All				94
College of Nanoscale Engineering and Technology Innovation				
Nanoengineering and Nanoeconomics Constellations	BS Nanoscale Engineering		21	110
	MS Nanoscale Engineering		2	19
	PHD Nanoscale Engineering		1	70
	Major not Declared (Undergraduate)		9	0
CNETI Total Undergraduate				
CNETI Total Graduate				
CNETI Total All				
SUNY Poly Total Undergraduate			2082	145
SUNY Poly Total Graduate			710	126
SUNY Poly Total All			2792	271

⁸ Student Served figures for the Albany site are legacy enrollments from the University at Albany, SUNY.

Appendix 4: Imperatives and Big Ideas

Imperatives (Goals)

Through the strategic planning process, SUNY Poly has identified four primary imperatives or long-term goals as described in Table A4.1 below.

Table A4.1 SUNY Poly Imperatives

SUNY POLY IMPERATIVES AND DESCRIPTIONS		
Number	Imperative	Description
SPI 1	<i>Integrated and Differentiated University</i>	Our goal is to realize the full potential and advantages of our multi-site merger so that we may become the premier polytechnic institute in New York State. Furthermore, we aim to strengthen our growing national and global reputations as a leading university for technology. This supports all five of the SUNY Excels goals: access, completion, success, inquiry, and engagement.
SPI 2	<i>Student Centeredness</i>	Our goal is to shift our processes, structures, and culture so as to holistically optimize student learning experiences and overall success. Although this favorably influences all, it primarily supports SUNY Excels goals: access, completion, success, and inquiry.
SPI 3	<i>Impactful Scholarship</i>	Our goal is to further enhance our scholarly abilities and funding approaches so as to grow our overall research capacity. This primarily supports SUNY Excels goals: inquiry and engagement.
SPI 4	<i>Economic Vitality</i>	Our goal is to collaborate with our diverse constituencies in creating robust and innovative development clusters (based on triple helix model of cooperation) so as to enhance the economic vitality and sustainability of our communities. This primarily supports SUNY Excels goals: success, inquiry, and engagement.

Thematic Strategies

To achieve each of the four primary imperatives or long-term goals described above, SUNY Poly has crafted various thematic strategies as delineated in Tables A4.2 to A4.5 below.

Table A4.2 SUNY Poly Thematic Strategies for Achieving *Integrated and Differentiated University*

SPI 1 Integrated and Differentiated University			
TS 1 Programs: New or Emerging Discipline Programs			
ABOUT			CONSIDERATIONS
Description and Rationale	Type	Priority	Potential initiatives and/or considerations recommend by Faculty and Staff
<p>Develop new or individualized programs of study that cross disciplines, allowing for rapid response to emerging demands. These programs may focus on education, research and/or service to community.</p> <p>Rationale is to overcome limitations presented by traditional disciplinary boundaries, allowing SUNY Poly to individualize course offerings through the introduction of novel cross discipline courses and programs. This will enable us to better prepare our students to be competitive for best jobs in areas of emerging industry workforce requirements. This will position faculty to engage in high profile emergent research areas.</p>	E	H	<p>New academic programs</p> <ul style="list-style-type: none"> • M.S. Systems Engineering (at SUNY/SED) • B.S. Interactive Media and Game Design (outside review) • M.S. Applied Sociology • Ph.D. Biomedical Engineering • M.S. and Ph.D. Engineering • Doctor of Nursing Practice • M.S. Applied Mathematics (modeling/computational aligned with experimental topics at CNSE; data science) • PhD Information Sciences, fully online - shall grow out of the existing master level IDT program • B.S., M.S., Ph.D. Robotics • M.S., Ph.D. Data Science • Ph.D. Computer Science w/data science track • M.S., Health Informatics <p>New programs, institutes, centers</p> <ul style="list-style-type: none"> • Cyber Security Institute • SUNY Poly Research Institute • Data Science Center • Design Culture Center • Health and Technology Institute <ul style="list-style-type: none"> ◦ Assistive Device Laboratory ◦ Health Clinic • Applied Research • STEM to STEAM initiative (Science, Technology, Engineering, and Math to Science, Technology, Engineering, Arts, and Math) • MIT Lincoln Lab-type contracting branch of Computer Science • Computational mathematical modeling (complex materials and biomedical applications), geometry and symmetry based mathematical and numerical methods for ordinary and partial differential equations, data analysis and analytics • Nanoscience Executive Education <p>Revised curricula</p> <ul style="list-style-type: none"> • Computer Science • Engineering Technology • Advanced Manufacturing • CGAM/SMARTT Center • Manufacturing University

TS 2 Institute: Create Fully Functioning Institution

ABOUT			CONSIDERATIONS
Description and Rationale	Type	Priority	Potential initiatives and/or considerations recommend by Faculty and Staff
<p>Complete the process of creating a single SUNY university to serve NYS high tech and high-demand professionals. SUNY Poly will support excellence in research, teaching/learning and service.</p> <p>Rationale is to create a unique polytechnic university by bridging the diverse cultures, climates, structures, governance and operational processes that currently exist at the two sites.</p>	C	H	<p>Culture – accepted norms, patterns of behavior</p> <ul style="list-style-type: none"> • Understand the existing cultures at Albany & Utica • Academic • Corporate • Research • Identify similarities & differences • How can we improve efficiencies through similarities • Which differences are useful <p>Climate – how people feel about the organization</p> <ul style="list-style-type: none"> • How do internal people feel about SUNY Poly? • What is going well? • What needs to be adjusted? <p>Structure – defined roles, relationships, etc.</p> <ul style="list-style-type: none"> • Understand both integrated and unique structures at Albany & Utica • Define future structure that supports both sites • Look for efficiencies <p>Governance Processes – how decisions are made</p> <ul style="list-style-type: none"> • Shared academic governance in progress • What other types of governance? <p>Operational Processes – how people and functions are supported</p> <ul style="list-style-type: none"> • Graduate studies and research infrastructure • Overcoming distance • Developing infrastructure – dorms, library, etc. • Academic Affairs • Business Affairs • Student Affairs • Human Resources • Sponsored Research

TS 3 Capabilities: Strengthen Existing Capabilities

ABOUT			CONSIDERATIONS
Description and Rationale	Type	Priority	Potential initiatives and/or considerations recommend by Faculty and Staff
<p>Develop clear plan and structure for SUNY Poly such that constituent needs are supported.</p> <p>Rationale is that SUNY Poly success would be heightened through clearer direction and communication. In order to realize the full potential of the merger, the organization will mature through common policies and processes. SUNY Poly research initiatives will require robust support and infrastructure.</p>	C	H	<p>Considerations</p> <ul style="list-style-type: none"> • Clarify and delineate organizational structure, strategic processes, operational processes & culture • Develop robust, integrated, and compliant Assurance of Learning (AOL) system for entire university • Develop transportation system between locations and ability to meet virtually • Develop capacity for clear internal and external communication at/between both sites • Develop high quality of life environment for students, faculty & staff • Develop robust facilities at both sites

TS 4 Virtuality

ABOUT			CONSIDERATIONS
Description and Rationale	Type	Priority	Potential initiatives and/or considerations recommend by Faculty and Staff
<p>Reduce dependence on physical location and increase collaboration through technology-mediated communication.</p> <p>Rational is to reduce cost and time required for transportation between sites by developing expertise and infrastructure to support collaboration through technology-mediated communication.</p>	C	M	<p>Considerations</p> <ul style="list-style-type: none"> • Embrace culture that uses media to communicate, learn, collaborate • Reduce dependence on location, space • Develop distance functioning skills in employees & students • Prepare students for global world • Support expansion goals

Note: Type, E = Expansion, C = Capacity; Priority, H = High, M = Medium

Table A4.3 SUNY Poly Thematic Strategies for Achieving *Student Centeredness*

SPI 2 Student Centeredness

TS 5 Learning: Engage in Experiential (Applied) Learning

ABOUT			CONSIDERATIONS
Description and Rationale	Type	Priority	Potential initiatives and/or considerations recommend by Faculty and Staff
<p>Develop expertise and capacity to lead applied learning in SUNY and serve as broker to others. Adopt best practices for applied learning in all disciplines. Eventually offer global internship placement services to others in SUNY, NYS, & US.</p> <p>Rationale is to give SUNY Poly a distinctive reputation for innovative pedagogy featuring experiential learning and real life problem solving. This would overcome threats of declining NYS enrollment and improve undergraduate retention and graduation rates. This is an opportunity for increased faculty research in emerging trends pedagogy.</p>	E	H	<p>New programs, institutes, centers</p> <ul style="list-style-type: none"> • Experiential/applied Learning Center • Education as an Enterprise – projects spanning multiple years • Project Based Learning • Experiential Learning • Internships • Maker Space • Advanced Manufacturing (CGAM/SMARTT)

TS 6 Infrastructure: Develop Student-Centered Infrastructure

ABOUT			CONSIDERATIONS
Description and Rationale	Type	Priority	Potential initiatives and/or considerations recommend by Faculty and Staff
<p>Recognize and provide infrastructure required for transformative student experience.</p> <p>Rationale is that SUNY Poly's ability to attract and retain great students is hampered by the inconsistent or lack of infrastructure required for student satisfaction.</p>	C	H	<p>New programs, institutes, centers</p> <ul style="list-style-type: none"> • New Student life concept: first two years in Utica then allow students to pursue the nanoscience and nanoengineering degree. Exchange would build relationship with the rest of student body, and at least early on participate in student life fully (athletics, clubs etc.) <p>Considerations</p> <ul style="list-style-type: none"> • Attractive and responsive IT infrastructure • Varied and relevant course selections • Spaces dedicated to student learning & relaxation • Campus life options available & easy to find • Resources available to students at times/places accessible when they need them • Opportunities to interact between campuses • Deploy full time staff advisers • TIs: Potential initiatives and/or considerations recommend by Faculty and Staff during academic affairs retreat include the following: • Need additional faculty • Avenues need to be available for students to change majors, internal transfer paths • Advising: need training, need professional advisors (Degree Works will help) • Many students run out of financial aid especially by taking wrong classes • SAM national clearinghouse • Improve student qualifications • Improve campus life • Expand early warning system • Applied Learning, what programs involved not? Correlate with graduation rate • High Impact Learning, tie to curriculum, faculty credit, what is applied learning? Uniformity? • Advisory Boards for each program • Clubs - faculty involvement • Can we correlate applied learning with success? Need to package appropriately. Not in the fabric of SUNY. Need a brand • Smart Track - SUNY program? High school? • Diversity and Innovation • Maker space • Honors program

TS 7 Diversity

ABOUT			CONSIDERATIONS
Description and Rationale	Type	Priority	Potential initiatives and/or considerations recommend by Faculty and Staff
<p>Align institutional demographics with emerging U.S. trends and welcome diverse traditions and ideas.</p> <p>Rationale is to overcome lack of diversity at both sites by intentionally</p>	E	M	<p>Commit to increase diversity of faculty, students, staff in areas of:</p> <ul style="list-style-type: none"> • Gender • Ethnic background • Socio-economic background • Philosophical viewpoints

aligning institutional demographics with emerging U.S. trends.					
TS 8 Globalization					
ABOUT			CONSIDERATIONS		
Description and Rationale	Type	Priority	Potential initiatives and/or considerations recommend by Faculty and Staff		
<p>Increase efforts to provide global perspective through exchanges and invited guests.</p> <p>Rationale is to give SUNY Poly graduates robust opportunities to develop global cultural competencies and for immersion in international commerce and scholarship.</p>	E	M	<p>Commit to increase globalization of faculty, students, staff in areas of global exchanges with institutions in other countries</p>		

Note: Type, E = Expansion, C = Capacity; Priority, H = High, M = Medium

Table A4.4 SUNY Poly Thematic Strategies for Achieving *Impactful Scholarship*

SPI 3 Impactful Scholarship					
TS 9 Capacity: Develop Human Capacity					
ABOUT			CONSIDERATIONS		
Description and Rationale	Type	Priority	Potential initiatives and/or considerations recommend by Faculty and Staff		
<p>Develop SUNY Poly faculty, staff, and students so that they are able to contribute to institutional goals, especially expanding research capacity.</p> <p>Rationale is that the new institutional mission and vision may be more fully supported through a better alignment of skills and interests facilitated by training and collaboration among faculty, staff and students.</p>	C	H	<p>Considerations</p> <ul style="list-style-type: none"> • To compete for new resources • To use & integrate distance technology • To collaborate on research & instruction • To identify & use applied learning pedagogy • To identify & engage in cross-disciplinary scholarship and education • To support community engagement 		

TS 10 Culture: Develop Culture of Resourcefulness

ABOUT			CONSIDERATIONS
Description and Rationale	Type	Priority	Potential initiatives and/or considerations recommend by Faculty and Staff
<p>Develop common understanding that everyone can/should attract resources to support SUNY Poly endeavors.</p> <p>Rationale is overcome threat of limited research and education collaboration opportunities due to lack of resources by enhancing the SUNY Poly resource development ecosystem. A more robust communication system would allow for expanded enrollment reach including international students.</p>	C	M	<p>Considerations</p> <ul style="list-style-type: none"> • Prepare faculty, staff, students to seek new resources through grants, contracts & giving • Develop strategic partnerships with corporations, individuals, government agencies • Attract & retain faculty, staff, students with interests & abilities to raise new resources • Support enhancement goals

Note: Type, E = Expansion, C = Capacity; Priority, H = High, M = Medium

Table A4.5 SUNY Poly Thematic Strategies for Achieving *Economic Vitality*

SPI 4 Economic Vitality			
TS 11 Community: Community Engagement			
ABOUT			CONSIDERATIONS
Description and Rationale	Type	Priority	Potential initiatives and/or considerations recommend by Faculty and Staff
<p>Have greater impact on society by engaging with local communities & strengthening the K-16 pipeline. Focus applied scholarship on community projects that benefit local society and give students experience with real life situations.</p> <p>Rationale is to develop strong community support programs that will overcome weak K-12 interest in STEM fields, provide real life problems to be solved, improve community support for institutional growth and enhance SUNY Poly's positive impact on society. Faculty members may expand community-based research initiatives.</p>	E	H	<p>New programs, institutes, centers</p> <ul style="list-style-type: none"> • K-12 programs to encourage students to strive for college • Children's Museum of Science + Technology • LEGO League • FIRST Robotics • Summer Camps • Service-based learning for students • Attract diverse faculty, students, staff • Regional Cluster/Economic Prosperity • Community Service & Projects • ICNY

TS 12 Entrepreneurship				
ABOUT			CONSIDERATIONS	
Description and Rationale	Type	Priority	Potential initiatives and/or considerations recommend by Faculty and Staff	
<p>Develop and support entrepreneurship skills in faculty, staff, and students and incentivize commercialization of novel products and approaches. Provide opportunities for students to learn from local entrepreneurs and work on real life business issues. Encourage students & faculty to invent products.</p> <p>Rationale is to build resource pipeline by incentivizing discovery of new inventions, encouraging faculty and students to develop business ideas and plans, building business development skills and knowledge and creating a culture of resource development.</p>	E	M	<p>Considerations, new programs, institutes, centers</p> <ul style="list-style-type: none"> • Regional Cluster/Economic Prosperity • Utilization of Mohawk Valley Innovation Centers • Smart Cities Technology Innovation Center • Solar Energy Development Center • Emerging Nano Industries • Photovoltaic Manufacturing and Technology Development Facility • Smart System Technology and Commercialization Center • Computer Chip Commercialization Center • Power Electronics Manufacturing Consortium • High-Tech Manufacturing Innovation Hub • Information Technologies Innovation and Commercialization Hub • Medical Innovation and Commercialization Hub • Advanced Manufacturing (CGAM/SMARTT) 	

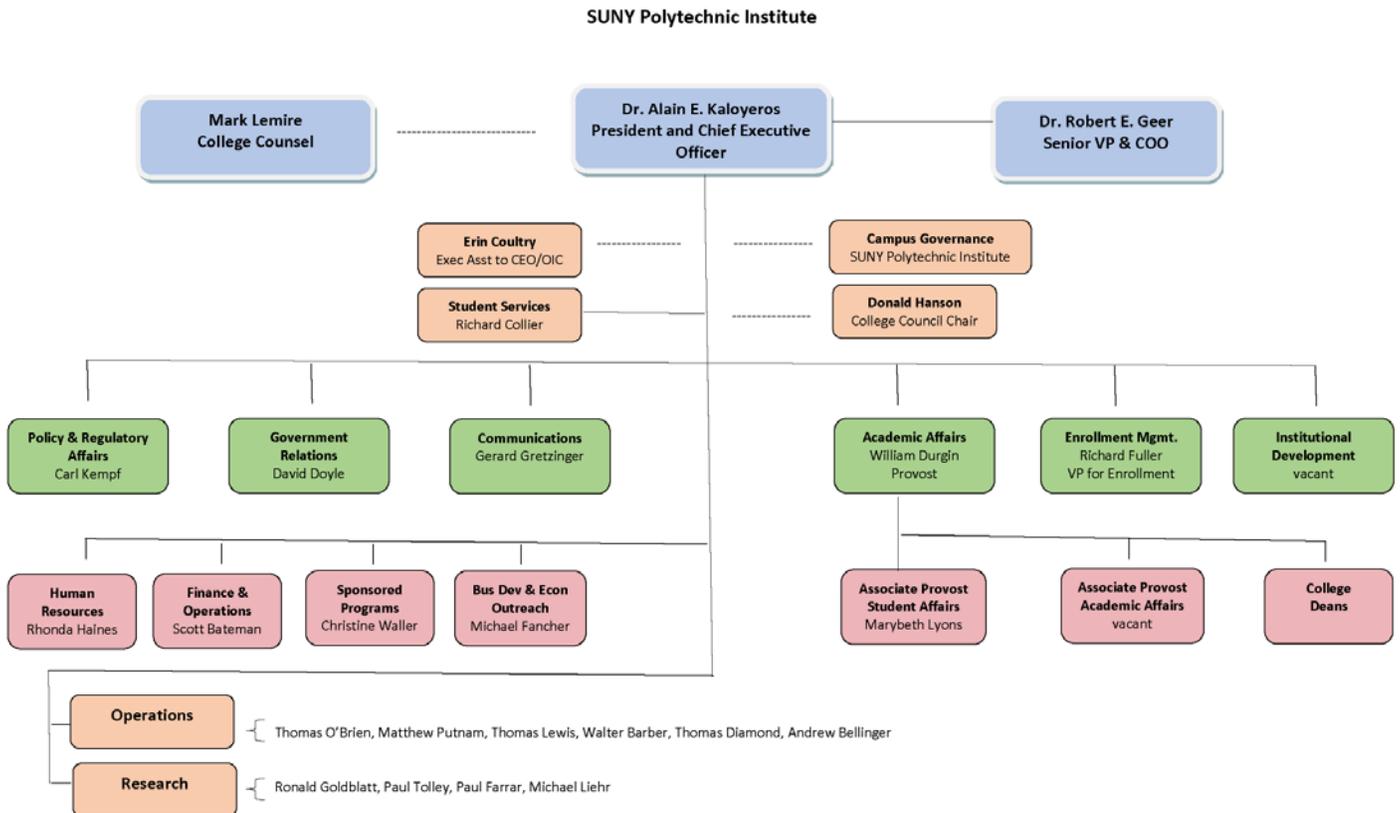
Note: Type, E = Expansion, C = Capacity; Priority, H = High, M = Medium

Table A4.6 TOWS and Other Sources for SUNY Poly Thematic Strategies by Imperative

Imperatives (Goals) and Big Ideas (Thematic Strategies) with Sources					
<p>Legend:</p> <ul style="list-style-type: none"> • S/O = strategies that use strengths to take advantage of opportunities • S/T = strategies that use strengths to guard against threats • W/O = strategies that strengthen or eliminate weaknesses to take advantage of opportunities • W/T = strategies that strengthen or eliminate weaknesses to guard against threats 					
IMPERATIVE AND THEMATIC STRATEGY	TOWS OR OTHER SOURCES				
	S/O	S/T	W/O	W/T	Other
SPI 1 Integrated and Differentiated University					
TS 1 Programs: New or Emerging Discipline Programs				Expand Course Offerings	Faculty Proposals & Suggestions
TS 2 Institute: Create Fully Functioning Institution					Faculty suggestions
TS 3 Capabilities: Strengthen Existing Capabilities		Expand Research Portfolio & Reputation		Develop Transportation Options	

TS 4 Virtuality					Task Force Discussion
SPI 2 Student Centeredness	S/O	S/T	W/O	W/T	Other
TS 5 Learning: Engage in Experiential (Applied) Learning	Become known for Innovative Learning	Applied Learning Hub	Improve Learning & Expand Online Education	Expand Course Offerings	Faculty Proposals & Suggestions
TS 6 Infrastructure: Develop Student-Centered Infrastructure	Enhance Student Infrastructure		Improve Campus Life	Improve Quality of Student Life	Faculty Proposals & Suggestions
TS 7 Diversity					Faculty Proposals & Suggestions
TS 8 Globalization					Faculty Proposals & Suggestions
SPI 3 Impactful Scholarship	S/O	S/T	W/O	W/T	Other
TS 9 Capacity: Develop Human Capacity		Expand Research Portfolio & Reputation	Improve Staffing	Improve Faculty Retention	
TS 10 Culture: Develop Culture of Resourcefulness	SUNY Poly Research Institute	Expand Institutional Advancement & Research Portfolio	Increase Corporate Funding		
SPI 4 Economic Vitality	S/O	S/T	W/O	W/T	Other
TS 11 Community: Community Engagement	Community Engagement	Expand Outreach Efforts			Faculty Proposals & Suggestions
TS 12 Entrepreneurship	Develop & Support Entrepreneurial Culture				Faculty Proposals & Suggestions

Appendix 5: Organizational Chart



Appendix 6: SUNY Poly New Hires

Table A6.1 SUNY Poly New Faculty Hires

New Faculty Hires (2013-2015)				
Site and College	New Hire		Education	
	Name	Title	Degree	Institution
Utica Site				
College of Arts and Sciences				
	Kazuko Behrens	Assistant Professor	PHD	University Of California-Berkeley
	Wenfeng Chen	Lecturer	PHD	Chinese Academy of Sciences
	Lauren Endres	Assistant Professor	PHD	University of Toronto
	David Hoffman	Assistant Professor	PHD	University of Waterloo
	Ryan Lizardi	Assistant Professor	PHD	Pennsylvania State University-Main
	Adam McLain	Assistant Professor	PHD	Louisiana State University
	Marcy Mullen	Lecturer	MPH	SUNY Albany
	David Pasick	Adjunct Lecturer	MA	Villanova University
	Tural Sadigov	Lecturer	PHD	Indiana University
	Carlo Cafaro	Lecturer	PHD	SUNY Albany
	Brendan Mahoney	Lecturer	PHD	SUNY at Binghamton
	Katherine Evans	Lecturer	PHD	University of Texas Austin
	Daniel Stevenson	Lecturer	PHD	SUNY Albany
College of Engineering				
	Coskun Cetinkaya	Associate Professor	PHD	Rice University
	Chen-Fu Chang	Assistant Professor	PHD	University of Central Florida
	Iulian GherasoIU	Assistant Professor	PHD	Texas Tech University
	Doug Holzhauer	Lecturer	PHD	Amherst College
	Firas Khasawneh	Assistant Professor	PHD	Duke University
	Zhanjie Li	Assistant Professor	PHD	Johns Hopkins University
	Mark Mattson	Lecturer	MS	SUNY Buffalo
	Michael Reale	Assistant Professor	PHD	SUNY At Binghamton

	Carolyn Rodak	Assistant Professor	DENG	University Of Notre Dame
	Shuang Tang	Assistant Professor	PHD	MIT
	Roopa Vishwanathan	Assistant Professor	PHD	University Of North Texas
	Yu Zhou	Associate Professor	PHD	Johns Hopkins University

College of Health Sciences and Management

	Elizabeth Campbell	Associate Professor	PHD	The University Of Tennessee
	Robert Edgell	Assistant Professor	PHD	University of St. Gallen
	Ildiko Monahan	Instructor	MS	Syracuse University
	Marie-Odile Richard	Assistant Professor	PHD	Universite De Montreal
	Doreen Rogers	Adjunct Lecturer	MSN	Mansfield University Of Pennsylvania
	Kathleen Rourke	Associate Professor	PHD	Syracuse University

Albany Site

Colleges of Nanoscale Science and Engineering

	Douglas Coolbaugh	Adjunct Professor	PHD	SUNY at Binghamton
	Michael Fasullo	Associate Professor	PHD	Stanford University
	Spyridon Galis	Assistant Professor	PHD	SUNY At Albany
	James Lloyd	Lecturer	PHD	Stevens Institute Of Technology

Table A6.2 SUNY Poly New Staff Hires

New Staff Hires (2013-2015)				
Site and Administrative Unit	New Hire		Education	
	Name	Title	Degree	Institution
Utica Site				
All Areas				
Administration	Richard Fuller	Vice President	MA	Bowling Green State University- Main Campus
	Robert Geer	Senior VP & COO	PHD	University of Minnesota
Admissions	Brittnay English	Admissions Assistant	BA	Case Western Reserve University
	Sarah Mess	Admissions Advisor	MA	SUNY College At Brockport
	Daniel Perez Jordan	Admissions Advisor	BA	SUNY Institute Of Technology At Utica-Rome
	Tze Teck Sim	Admissions Assistant	BS	SUNY Institute Of Technology At Utica-Rome
	Ziomara Zamora	Admissions Assistant	BS	SUNY Institute Of Technology At Utica-Rome
Athletics	Daniel Liberto	Coach	MS	SUNY College At Brockport
	Robert Schoener	Coach	BA	Saint John Fisher College
	Brianna Shevlin	Assistant Athletic Trainer	BS	SUNY College At Cortland
Business Office	Heather McDonnell	Staff Assistant	BA	SUNY Institute Of Technology At Utica-Rome
	Charles Schiralli	Purchase Associate	MS	Le Moyne College
Campus Life	Daniel Eddy	Residence Hall Director	MSED	SUNY College At Oswego
	Eric Hotchkiss	Residence Hall Director	MA	SUNY at Potsdam
	Ryan Troup	Residence Hall Director	BS	SUNY College At Brockport
	Megan Wyatt	Director of Student Conduct and Leadership Development	MS	Central Missouri State University
Career Services	Sim Covington	Director of Career Planning	MS	SUNY At Albany
Development	Jon-Paul Kidwell	Vice President	BS	SUNY Institute Of Technology At Utica-Rome
Facilities	Cheryl Compton	Cleaner	AS	Delaware Technical and Community College
	Rhonda Martin	Cleaner	n/a	n/a
	Jay Sweet	Cleaner	n/a	n/a

Financial Aid	Melissa Rose	Director Financial Aid	BBA	University Of Oklahoma Norman Campus
	Heather Solazzo	Financial Aid Advisor	BS	SUNY Institute Of Technology At Utica-Rome
Human Resources	Audra Cornelius	Personnel Assistant	BA	Trinity University
	Amy McLaughlin	Personnel Assistant	MA	SUNY At Stony Brook
ITS	Andrew Bellinger	Director Computing Center	n/a	n/a
Library	Allison Fiegl	Assistant Librarian	BA	SUNY At Buffalo
	Shannon Pritting	Director Library Learning Resources	MA	SUNY College At Oswego
Provost's Office	Cynthia Northrop	Secretary	BS	SUNY at Oneonta
Public Relations	David Dellecese	Community Relations Associate	BA	SUNY College At Oswego
	David Doyle	Vice President	BA	SUNY College At Oswego
Registrar	Lynn Decker	Associate College Registrar	MBA	Dowling College
SBDC	Shelby Sweet	Senior Staff Assistant	MS	SUNY Institute Of Technology At Utica-Rome
University Police	Larre Harris	University Police Officer	MS	University of Phoenix
	Brian Harris	Campus Public Safety Officer	AA	Herkimer County Community College
	Jacob Manley	Campus Public Safety Officer	BS	SUNY Institute Of Technology At Utica-Rome
	Gregory Sanborn	University Police Officer	BA	University Of Rochester
	Julianne Tirado	Campus Public Safety Officer	AA	Mohawk Valley Community College
	Elizabeth Toles	Campus Public Safety Officer	AA	Onondaga Community College
Other	Matthew Madia	Staff Assistant	MSC	Canisius College
	Dana Percia	Instructional Support Assistant	BS	Utica College
	Daniel Smith	Staff Assistant	BS	Limestone College
	Thomas Smith	Associate Vice President	JD	Albany Law School

Albany Site

All Areas

Campus Life	Nicole Baptiste	Residence Hall Director	MSW	SUNY at Albany
	Raquel Brown	Residence Hall Director	MA	Hunter Business School
Human Resources	Kristin Blake	Senior Personnel Associate	MBA	SUNY At Albany
	Brian Gast	Personnel Associate	BS	SUNY Institute Of Technology At Utica-Rome
	Janelle Serritella	Personnel Assistant	BA	SUNY At Albany

ITS	William Earley	Instructional Support Technician	PHD	University of Vermont
University Police	Ronald Campano	Deputy Chief Of Police	AAS	SUNY At Albany
	Maurice Catel	University Police Officer	MS	SUNY at New Paltz
	Cameron Cox	University Police Officer	n/a	n/a
	John Hudson	University Police Officer	BA	SUNY at Cobleskill
	Thomas Louis	Chief Of Police	BS	University Of Bridgeport
	David Lyons	University Police Officer	AS	Columbia-Greene Community College
	Gary Mazzacano	Deputy Chief Of Police	n/a	n/a
	Steven Spinicchia	University Police Officer	AAS	Schenectady County Community College
	William Sprague	Chief Of Police	MA	SUNY At Albany
	Other	Walter Barber	Vice President	BBA
Thomas Diamond		Vice President	MS	New York University
Matthew Mason		Facilities Program Coordinator	n/a	n/a
Christopher Walsh		Associate Vice Pres	JD	Cornell University

Appendix 7: SUNY Excels Data Summary

Table A7.1 SUNY Poly Data for SUNY Excels

SUNY Poly							November 2015				
SUNY Excels: Data Executive Summary											
Line	Access	Fall 2009	Fall 2010	Fall 2011	Fall 2012	Fall 2013	Fall 2014	Change	% Change	Fall 2018	Fall 2020
1	Total Student Headcount	2,934	2,821	2,508	2,377	2,480	2,738	-196	-6.7%	3,184	3,500
2	Student AAFTE	2,023	2,004	1,788	1,756	1,896	2,125	102	5.0%	2,494	2,755
3	Acceptance Rate	37.8%	34.7%	46.7%	38.9%	47.5%	56.8%	19.0%	50.1%	58.0%	55.0%
4	Enrollment Yield	30.4%	31.9%	33.8%	27.0%	29.6%	26.5%	-3.8%	-12.6%	24.8%	24.8%
5	Percent of Total Headcount Full-Time	57.0%	60.4%	60.0%	60.7%	65.3%	67.2%	10.2%	17.9%	68.0%	70.0%
6	Percent New York State	95.3%	96.0%	95.3%	94.5%	93.9%	91.1%	-4.3%	-4.5%	92.0%	92.0%
7	Percent International	3.1%	2.9%	3.1%	3.7%	4.6%	7.5%	4.3%	140.2%	6.2%	6.2%
8a	Percent Student Minority	12.1%	15.0%	16.4%	16.7%	17.2%	17.5%	5.3%	43.9%		
8b	Percent Student Underrepresented Minori	9.5%	12.3%	13.0%	13.7%	13.7%	14.0%	4.5%	47.6%		
9	Percent Total Headcount Male	51.5%	51.0%	51.8%	51.0%	54.3%	56.6%	5.1%	10.0%	54.0%	52.0%
10	Percent Pell Receipts	n/a	n/a	41.4%	41.3%	43.0%	42.4%	1.0%	2.5%	42.0%	42.0%
11	EOP Enrollment	52	49	50	49	55	59	7	13.5%	65	70
Completion											
		2009-10	2010-11	2011-12	2012-13	2013-14	2014-15	Change	% Change	2018-19	2020-21
12	Percent 1st Year Retention (First-time, Full-	69.1%	72.9%	71.2%	69.7%	83.8%	74.9%	5.8%	8.4%	80.0%	85.0%
13	Time to Degree (years) - Associates	-	-	-	-	-	-	-	-		
14	Time to Degree (years) - Baccalaurete	4.30	4.13	4.23	4.38	4.36	-	0.06	1.5%	4.30	4.25
15	3-year Associate Graduation Rate	-	-	-	-	-	-	-	-		
16	6-year Baccalaureate Graduation Rate	58.0%	46.5%	33.1%	47.8%	43.0%	-	-15.0%	-25.9%	55.0%	60.0%
17	Total Degrees Awarded	565	576	627	627	594	-	29	5.1%	665	730
18	Undergraduate Certificates Awarded	-	-	-	-	-	-	-	-		
19	Associate Degrees Awarded	-	-	-	-	-	-	-	-		
20	Baccalaureate Degrees Awarded	421	424	433	412	431	-	10	2.4%	470	508
21	Graduate Degrees Awarded	143	151	192	211	156	-	13	9.1%	189	215
22	Graduate Certificates Awarded	1	1	2	4	7	-	6	600.0%	6	7
Success											
23	Total Faculty Headcounts	199	189	184	186	192	244	45	22.6%	270	295
24	Percent Faculty Headcount Minority	21.3%	-	22.1%	-	27.5%	-	6.2%	29.3%		
25	Percent of Faculty that are Full-Time	47.2%	45.0%	41.8%	40.9%	41.7%	50.8%	3.6%	7.6%	55.0%	60.0%
26	Student to Faculty Ratio (FTE)	16.4	17.5	16.7	16.0	16.7	13.5	-2.8	-17.3%	14.4	13.2
27	Total Staff Headcounts	229	202	233	216	249	248	19	8.3%	270	285
28	Percent Staff Headcount Minority	3.7%	-	3.4%	-	4.9%	-	1.1%	30.7%		
29	Student Default Rates - Campus ¹	3.9%	4.7%	6.3%	-	-	-	2.4%	61.5%	5.2	4.8
30	Student Default Rates - State Operated ¹	7.4%	7.9%	7.0%	-	-	-	-0.4%	-5.5%	N/A	N/A
31	Student Default Rates - Community College	17.9%	19.7%	17.4%	-	-	-	-0.5%	-3.0%	N/A	N/A
Inquiry											
32	Sponsored Activity - Total (\$millions)	\$230,186,371.1	\$225,717,737.7	\$331,592,269.9	\$367,021,635.7	\$258,841,929.3	-	\$28,655,558.1	12.4%	\$314.62	\$346.87
33	Sponsored Activity - Nonfederal	\$203,155,351.8	\$190,024,639.7	\$289,852,523.6	\$329,543,596.4	\$228,520,361.2	-	\$25,365,009.4	12.5%	\$277.77	\$306.24
34	National Science Foundation R&D Total	\$214,468,968.0	\$248,778,785.0	\$265,474,074.0	\$374,175,125.0	\$412,851,000.0	-	\$159,706,157.0	74.5%	\$501.82	\$553.26
Engagement											
35	Funds Raised (\$millions)	\$0.2	\$0.1	\$0.4	\$0.8	\$0.5	-	\$0.3	218.2%	\$2.2	\$2.5
36	Alumni Giving Rate	3.1%	4.0%	3.4%	4.5%	4.8%	-	1.7%	55.2%	5.5%	6.8%

Notes:

¹ The federal cohort default rate reported as the 3 year rate.

Appendix 8: Resources Available

Albany Site

SUNY Poly's Albany NanoTech Complex, home to the Colleges of Nanoscale Science and Engineering, is a fully-integrated research, development, prototyping and educational facility that provides strategic support through outreach, technology acceleration, business incubation, pilot prototyping and test-based integration support for onsite corporate partners.

SUNY Poly's Albany NanoTech Complex is located within a 1,300,000 square foot complex that houses the most advanced 200mm/300mm wafer facilities in the academic world, including over 140,000 square feet of Class 1 capable cleanrooms equipped with 300mm wafer processing tools. The complex incorporates state-of-the-art, R&D and prototype manufacturing infrastructure for nano/microelectronics, nanophotonics and optoelectronics, nano/micro systems (MEMS), nanobioscience systems and nanopower science and technology.

These resources are complemented by nine bio-laboratories (~ 9,000 sq. ft.) which are equipped for chemistry, tissue culture, cell biology, molecular biology, biochemistry, microbiology, toxicology, stem cell technology, and cell-device integration. The 'open format laboratory style' promotes interactions between PIs, postdoctoral, graduate and undergraduate students with shared expertise and equipment. In addition, the Nanobioscience Constellation has assembled a state of the art metrology and characterization suite including, for example, a Leica SP5 confocal laser scanning microscope (CLSM) integrated with Veeco Bioscope Catalyst atomic force microscope (AFM), a Zeiss Observer Colibri fluorescent microscope with N₂ cooled CCD camera (60x, 100x objectives), a Tecan Infinite M200 microplate fluorimeter reader with UV/VIS spectrophotometer, a humidity controlled Nano eNabler (NeN) QPL instrument (Bioforce Nanosciences) for cell and molecular printing and an Amnis flow cytometer, among many other instruments.

Currently, faculty and students have access to leading edge tools in metrology, lithography including EUV lithography, front-end-of-line and back-end-of-line processing. Qualified instructors and trained technicians help students and faculty master the tools and equipment and carry out their own experiments.

Utica Site

CGAM Laboratory

The Center for Global Advanced Manufacturing (CGAM) laboratory complex supports all four years of the undergraduate experience, graduate programs and will be available for industrial - academic partnerships. CGAM will provide students, faculty, and industry with the ability to go from idea to prototype to working part using the Additive Manufacturing Lab (polymers, ceramics, and metal), Machine Tools Lab and Digital Prototyping Labs. In addition, in the Scanning, Measuring, and Testing Lab researchers will be able to undertake characterization, scanning and testing of materials and products from the nano-scale to the macro-scale using the SEM, SAM, AFM, scanning vibrometers and materials testing machines. The Digital Electro-mechanical Lab provides an array of sensors for looking at the mechanical, thermal and electrical properties of products and materials. Researchers will also be

able to use individual tools to develop basic research and further applied research. The lab will contain four TRAK K3 with SMX Control CNC Mill machines, as well as four TRL 1630SX lathes.

Biochemistry Laboratory

The biochemistry lab at SUNY POLY Utica site is used for both teaching and research purposes. The Biochemistry lab is used to teach Biochemistry I course (CHE430) for undergraduate students. The lab enables students to learn the theory behind the techniques. This lab is used to train students on learning physical skills and techniques of modern experimental biochemistry. Usually, students learn skills involve using a pipet correctly, using a pH meter properly, balancing centrifuge tube, loading chromatography columns, setting up electrophoresis equipment and so on. Currently biochemistry research in SUNY POLY Utica site is mainly focused on Cancer. My research objective is to study about the correlation of CYP2A13, a Cytochrome P450 Enzyme genetic polymorphism with inter individual differences in susceptibility to tobacco-related cancer.

Statewide Sites

SUNY Poly also operates the Smart Cities Technology Innovation Center (SCiTI) at Kiernan Plaza in Albany, the Solar Energy Development Center in Halfmoon, the Children's Museum of Science and Technology (CMOST) in Troy, the Central New York Hub for Emerging Nano Industries in Syracuse, the Smart System Technology and Commercialization Center (STC) in Canandaigua, and the Photovoltaic Manufacturing and Technology Development Facility in Rochester where SUNY Poly also leads the American Institute for Manufacturing Integrated Photonics. SUNY Poly founded and manages the Computer Chip Commercialization Center (Quad-C) at its Utica location and also manages the \$500 million New York Power Electronics Manufacturing Consortium, with nodes in Albany and Rochester, as well as the Buffalo High-Tech Manufacturing Innovation Hub at RiverBend, Buffalo Information Technologies Innovation and Commercialization Hub, and Buffalo Medical Innovation and Commercialization Hub.

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