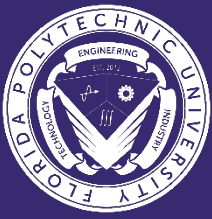


BOARD OF TRUSTEES  
**Operational Goals  
Final Report**

**ASSESSMENT PLAN 2019-20**  
**FLORIDA POLYTECHNIC UNIVERSITY**

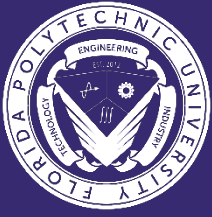
Final Report  
to the Board of Trustees  
on Operational Goals

Randy K. Avent  
November 2020



# BOARD OF TRUSTEES Performance Metrics

	2018-2019	Peer Group	SUS Average	FY20 Goals	FY20 Actuals
<b>Academic Reputation</b>					
USNWR Ranking	N/A			introduced	72
<b>Academic Productivity</b>					
UG Incoming Class Size	330			436	448
GR Incoming Class Size	25			28	37
Average SAT	1270	1321	1266	1270	1327
Average ACT	29	29	26	29	30
% Academic Progress Rate (GPA >2.0)	69%	81%	82%	74%	79%
4- year Graduation Rate	39%	32%	41%	40%	35%
6-Year Graduation Rate		62%		58%	51%
% Degrees without Excess Hours	95%		75%	>75%	83%
% University Access Rate (UG with Pell)	30%	24%	38%	30%	32%
<b>Financial Resources</b>					
Unrestricted Funds	\$460K			\$800K	\$1,026,105
Scholarship Funds	(\$122K)			\$1.3M	\$935,666
Endowment	\$463K			\$150K	\$568,932
<b>Academic Expenditures</b>					
% Expenditures on Instruction	28%	30%	32%	30%	
Student: Faculty	18:01	14:01	21:01	18:01	15:01
% Hours taught by Adjuncts	12%			<20%	16%
Average Cost to Students (120 Hours)	\$9.5K	\$21.9K	\$13.9K	<\$14K	(\$5,790)
<b>Graduate Demand</b>					
% BS Graduates Employed			67%	70%	67.50%
Median Wages for BS Grads			\$36.8K	\$45K	\$54,800
% BS Awarded in Strategic Areas	100%	78%	51.37%	100%	100%
% Graduate Degrees in Strategic Areas	100%	74%	61.20%	100%	100%
% Industry Internships	83%			80%	79%
% Industry Capstone Projects	85%			80%	86%



# BOARD OF TRUSTEES Operational Goals 2019 - 2020

## **(DEGREE ALIGNMENT) BUILD PROMINENT PROGRAMS IN HIGH-PAYING INDUSTRIES**

### **Goal 1: Enroll a high-quality and diverse incoming class**

Despite a national decline in higher education enrollment for the eighth consecutive year, applications for new students increased by 65% for our Undergraduate (UG) programs and 75% for our Graduate (GR) programs. This resulted in an overall enrollment increase of more than 25% year-over-year and more than 5% for our stated goals. This increase can be attributed to many efforts including a new micro-targeted lead generation strategy, STEM-Tech days that addressed students from highly ranked Florida high school AP Calculus and Physics classes and significantly updating our financial aid operations. We also added eSports and a scatter band as two new student affinity groups that attracted and engaged new students.

In addition to growing admission numbers, we also improved in both the diversity and quality of deposits. In diversity, while fall FTIC Black/African American deposits were flat at 6%, but much higher than our engineering peers, we saw an increase in the percentage of female deposits from 17% to 18.6% and larger increases in Hispanics to from 18% to 24%. Our new, first-year STEM program is partly responsible for some of these increases. This program targets low-income students with strong math skills and moderate test scores. Our % University Access Rate (Undergraduates with Pell) exceeded our aggressive goal of 30%, landing at 32.1%, which continues to be much higher than our engineering peers who average 24%.

Both our out-of-state and international admits were significantly higher this year at 98% and 61% respectively, but COVID negatively impacted their enrollment. To increase out-of-state students we hired a full-time regional recruiter to focus on the northeast, where the density of STEM-bound students is nearly 10-times larger than in Florida. To increase international applications we developed a new approach to international recruitment with our global corporate partner. Our transfer applications were also up 29% with the average GPA increasing from 3.0 to 3.8, due in large part to new recruitment brochures, intentional focus on building relationships with math faculty at five state colleges and the introduction of a new "one-year pipeline" program that provides direct admissions to eligible students after their first year.

Finally, the overall quality of all our admits increased this year with the average SAT score going from 1275 to 1327, the average ACT from 28 to 30 and the average GPA from 4.01 to 4.35.

### **Goal 2: Grow a faculty body committed to excellence**

The goal for new faculty hires this year was roughly 10, and we began the year with strong postings in The Chronicle of Higher Education, Inside Higher Education and Higher Ed Jobs as well as various diversity recruiting hubs. With COVID-related travel restrictions and the campus going remote during the peak of the interview season, we only hired two full-time Faculty, three Visiting Assistant Professors and five

Visiting Instructors, since we did not have the chance to thoroughly vet most candidates on campus. Our student-to-faculty ratio remains better than our 18:1 goal at 15:1 and our % Hours Taught by Adjuncts was lower than the stated goal of 20% at 16%.

Consistent with the Collective Bargaining Agreement, all of our early (pre-2017) faculty members were reviewed this Spring for consideration for reappointment to a second three-year term. Additionally, two faculty members were reviewed for promotion to Associate Professor, and two other faculty members that were hired after June 1, 2017 were reviewed as part of the normal review process. Thirteen of the 20 faculty that were reviewed were successful.

Lastly, we continue to offer generous professional development and start up packages to faculty to encourage them to become more active in their research and academic communities. This package provides up to \$3,500 for travel to conferences, as well as one-time awards for equipment and supplies. COVID-related travel restrictions prevented some of these awards this year, and we are considering modifications to this program to increase its Return on Investment.

### **Goal 3: Improve instructional effectiveness and consistency of quality**

We hired a Director of Teaching and Learning who grew programs and resources in Teaching and Education by 100%. All faculty participated in an effective “Teaching and Technology Practices Workshop” at the Fall 2019 faculty orientation and 80% of faculty engaged with Teaching and Learning in one-on-one instructional consultations. We initiated first courses via distance learning to support on-time progression for juniors and seniors. With these investments, our instructional effectiveness is beginning to improve from previous survey assessments.

With all campus operations going remote in March, we converted 100% of courses from face-to-face to remote delivery over a 3-day period. To do this, we significantly increased our available instructional technology, provided extensive “Resources for Teaching Remotely” and “Remote Learning Resources for Students” in Canvas (the Learning Management System) to support faculty and students in the transition, developed minimum standards and methods for ensuring course content and supported faculty in updating courses and tests. We acquired online test proctoring software to ensure the integrity of remote delivery of exams and organized a student remote learning support team led by the Vice Provost of Academic Affairs to provide live support for students prior to and during testing time. We also developed a one-time change to our University Grading Policy to recognize the difficult challenges students were facing—personal, technological, educational—that provided pathways for successfully completing the term and making progress towards their degree while preserving academic quality.

In preparation of the Fall 2020 semester, 88% of the faculty were provided formal training in pedagogy and the use of technology tools to enhance their ability to teach both in face-to-face and remote or online formats: The remaining 12% have completed the training since then.

### **Goal 4: Grow the number of academic programs in strategic disciplines**

We implemented three new degree programs (Engineering Physics, Engineering Mathematics and Environmental Engineering) in Fall 2019 to bring our total undergraduate offerings to nine degree programs, and we have one new bachelors’ program (Cyber-Security Engineering) in process for Fall 2021.

We created one new concentration that built on the Advanced Mobility Institute mission, Autonomous and Electric Vehicles (Computer and Electrical Engineering), and we also added concentrations in Aerospace and Mechanical and Thermal Systems (Mechanical Engineering), Autonomous Systems (Computer Science), Autonomous Robotic Systems (Computer Engineering) and Health Systems Engineering (Data Science and Business Analytics).

#### Goal 5: Mature and grow the graduate program

Our Legislative Budget Request for \$500K to grow our graduate program was vetoed by the Governor; thus, significantly curtailing our efforts. Despite that, we formalized the curricular structure for both master's degrees and grew our graduate assistantships and research footprint. We enhanced our curriculum to include tracks in Mechanical Engineering, Computer Engineering, Electrical Engineering, Engineering Management, Data Science and Computer Science. We redesigned the Robotics track in the M.S. in Engineering program as a true interdisciplinary degree with elements from Electrical and Computer Engineering, Computer Science and Mechanical Engineering. We also explored limited distance learning (online and hybrid) delivery for courses in the Engineering Management (MS Engineering) and Data Science tracks (MS Computer Science).

### **(STUDENT SUCCESS) PREPARE STUDENTS FOR A LIFETIME OF SUCCESS**

#### Goal 6: Help students achieve academic goals

We developed an excellence program around a common first year curriculum that includes courses in Academic & Professional Skills, Introduction to STEM, Introduction to Computer Programming and Concepts & Methods. In addition to instilling commitment and values in our students, this curriculum provides a common first year for all majors so students can change majors without harming their graduation pathways. We purchased ConexED as an advising platform that allows our success coaches to share notes and help retain our students through tutoring. Degree audits are now completed manually for all students and kept in their CAMS profile.

Because student success is critical to the student experience, we increased access to our success professionals by 33% by hiring a leader for Student Success and Retention, assigning all students to a specific Success Coach and providing faculty with a reporting system for students of concern. We also implemented an Academic Improvement Program that engages students: 84% of those students participating in this program improved their academic standing by the end of the semester.

We also increased our campus experience opportunities through Registered Student Organizations, Student Government and Presidential Ambassador programs. We held student-focused workshops that included a co-curricular leadership endorsement, hard topics series, academic motivation workshops, six Innovation Speakers, lectures on "How to Give the Perfect Pitch", and we created an ENACTUS club on social entrepreneurship. Lastly, we developed a Virtual Student Union to encourage students to stay connected and engaged with the campus while learning remotely.

While our Academic Progress Rate was higher than our goal, our 4-year and 6-year graduation rates were lower. This is partly because the BOG strongly encouraged us to set reach goals for those two metrics, although we knew they could not be met. Additionally, our 4-year graduation rate was for our third class,

where we had an unusually high acceptance rate that year to meet the legislative mandates. This is the first six-year graduation rate we have had and so there was no data for accurately estimating the value.

**Goal 7: Build essential skills in communication, leadership, design and business.**

This goal was not a focus this year.

**Goal 8: Embed projects in a sustainable manner to enhance professional development**

This goal was not a focus this year.

**Goal 9: Support students through work experience programs and career opportunities**

Although this goal was not a focus this year, we increased the number of students who attended the Spring 2019 Career Fair by 66%, exposing them to over 150 employers through career-related events. We helped 200 freshmen with their career planning and professional goals by providing a “Resume Desk” and collaborating with Microsoft on developing a professional development training for freshmen. In response to COVID-19, we adjusted our methods of communication by regularly calling, emailing and creating a platform in Canvas that kept students engaged and connected with employment opportunities.


Even though COVID negatively impacted internship hiring this summer, we only missed our goal of % Industry Internships by 1%. This was the first year the state provided a % BS Graduates Employed metric for us, which often does not capture students that leave Florida. Our previous values were estimates based on informal surveys. Our Median Wages for BS Grads was significantly higher than the rest of the system at \$54,800 and both our % BS Awarded in Strategic Areas and % Graduate Degrees in Strategic Areas were 100%.

**(ECONOMIC DEVELOPMENT) GROW A HIGH-TECHNOLOGY ECONOMY AROUND FLORIDA POLY**

**Goal 10: Conduct and execute a realistic and sustainable industry interaction model**

We established a Director of Industry Engagement and Capstone Projects and have a bi-weekly industry update meeting to connect various external partners with different university programs, e.g., full-time employment, capstone projects, advisory boards, advocacy, development and others. The % Industry Capstone Projects was 6% higher than our goal at 86%, and we increased the percentage of multidisciplinary capstone projects from 35% to 43%. With the campus moving to remote operations, most teams still completed a majority, if not all, of their project goals. We sourced most of the necessary components to the student teams in early/mid-February so they could simply continue progress off site.

We created an entrepreneurship certificate with four courses and a total enrollment of 58 students, and we offered consultations to 80 students interested in commercialization and entrepreneurial competitions, where students won over \$55,000 in prize money to date. We also hosted an eMerge Americas Pitch Night to give our students exposure to business style presentations on our campus. In September, we were a finalist for the “Exceptional Activities in Entrepreneurship Across Disciplines” award at the Global Consortium for Entrepreneur Centers along with Texas A&M, Penn State, Harvard and Florida State.



In mid-March, we were contacted by the Nicholson Center (training and teaching arm of AdventHealth) about helping them produce the PRUSAPRINT.ORG RC3 face shield components. Out of this relationship, we also signed an MOU with the City of Auburndale and teamed with Advanced Concept Innovations (ACI) Inc on manufacturing N95 masks at the rate of 3-5M units per week. Since then, we have been working with BRPH (engineering/architectural firm out of Melbourne, FL) on an Agile Manufacturing Center as the primary research center of our manufacturing technology vertical. This center would include technology around Industry 4.0, agile and modular manufacturing and integrated testing.

### **Goal 11: Conduct applied research to strengthen University impact**

We conducted an economic impact analysis for Florida Poly that measured the impact of the institution's programs and activities. This study found that last year alone, we had a total \$290M impact with \$160M in GDP growth and \$96M in labor income.

We hired a new Director of Sponsored Programs that helps faculty with pre- and post-grant services, and we increased the number of proposals by 21%, the total number of new awards by 22%, the total dollar amount of new awards by 122% and the percentage of funds from external sources by 21%.

We appointed a Director of Health System Engineering (HSE) and defined its strategy, which helped us successfully launch several research programs in HSE. We are collaborating with Lakeland Regional Health on a program around the "Social Determinants of Health (SDoH)", partnering with AdventHealth on a research study addressing "Fitness Awareness in Young Adults" and secured a \$600K NSF grant – Florida Poly's largest federal grant to date – to create a novel pedagogical approach for STEM ethics training through internships in an industrial setting.

We increased the outside funding of Florida Institute for Phosphate Research (FIPR) by signing a 3-year \$876K agreement with Critical Materials Corporation with focus on Lithium & Rare Earths production, and we also increased our external laboratory services by 80%. We refocused FIPR to grow new research missions in water processing, phospho-gypsum stacks, phosphatic clay and minerals processing/rare earths, all which are more relevant and urgent than our past efforts.

Finally, we grew the Advanced Mobility Institute and focused its research efforts on four issues: (1) edge-case detection and accelerated learning; (2) ElectroMagnetic Interference (EMI) in sensing and communications; (3) language of driving; and (4) transportation optimization. We offered an internal seed funding opportunity with a budget of \$200K and received 13 proposals from our faculty. We also won a \$350K NSF Major Research Instrumentation (MRI) award for the testing and verification of AV and submitted another proposal to the Department of Homeland Security for \$500K.

### **Goal 12: Develop extended campus to support University growth**

To support campus operations and increase utility efficiencies, the University entered into an agreement that brings reclaimed/redundant water lines to campus, providing 100% redundancy in potable and grey water. We completed the programming of the ARC to support 100% of the current academic research mission/growth projection through 2026, and we completed a plan to increase outdoor spaces on campus to support and encourage interaction of students, faculty and staff.

We are working closely with a favorable developer performing due diligence on the property surrounding the University. We continue promoting a “live-work-play” innovation district and research park that would stimulate the Polk County high-tech economy and create an ecosystem (housing, schools, shopping, recreational spaces) that attracts students from across the state. We are also working with a second developer for the Pace Road property adjacent to SunTrax.

With little capacity to bond, we are nearing completion of an Invitation to Bid (ITN) that would allow industry to build research space on our campus as Public-Private Partnerships (P3s) and are working closely with a communications company also interested in relocating to campus.

### **(AFFORDABILITY) MAXIMIZE VALUE FOR THE STUDENT**

#### **Goal 13: Create a strong student user experience**

We created a Purple Fire program that enriches the student experience in their first 45 days through events, programs and a common first year experience. Student access to outdoor activities increased by 20% with the addition of a new interactive outdoor area for students on campus called the “Oak Grove”. This outdoor area joined other outdoor activity areas on campus (Pool, Soccer Fields, Volleyball/Basketball area and Campus Pathways).

To improve student services and foster better decisions, the Registrars Office improved the course registration, degree audit and transfer credit validation processes.

A strong student experience includes a student being healthy and able to participate on campus. This year we grew our mental health offerings by 50% with three additional licensed counselors (one being female) available to offer a range of clinical programs. Once we transitioned to remote operations, we developed a Student Support Request Form where students can digitally “raise their hand” and be contacted by the Campus Assessment Response & Evaluation (CARE) team to provide remote help.

To improve our Title IX program, we increased our online report services by 40% and increased online training efforts by 50%. To improve our American Disability Act (ADA) program, we increased the number of American Sign Language (ASL) providers and services by 75% to include on-site interpreting and video remote interpreting, completed a self-evaluation on best practices and compliance and developed a golf cart transportation service.

The campus experience at Florida Poly is underpinned by the presence of, and activity within, the residence halls that are owned by our P3 partner. We successfully renegotiated our housing contract with them and transitioned to a “service agreement” for the residence halls where Florida Poly manages the Resident Assistants in the residence halls and the overall student experience. This effort provided extensive training for the Residential Assistants and has transitioned to a much stronger evening and weekend presence on the part of Student Affairs staff. Although the indicators are hard to measure, this effort appears to be improving the perception of their total experience at Florida Poly.

#### **Goal 14: Concentrate spending on academic programs**



The COVID-19 crisis presented near-term challenges to us as a campus, so we assembled an Emergency Management Team early in the process that met regularly throughout the crisis to make decisions that affected both students and employees. We worked with students to encourage them to return home, and then we locked down the IST. We canceled all events and worked with both Vestcor (dorms) and Chartwells (food) to provide refunds to those students that left campus. We developed and implemented a phased plan for qualified employees to work remotely.

In anticipation of future funding cuts in a troubled economy, we developed a financial resiliency plan that included short-term austerity actions (hiring, procurement and travel freezes) and longer-term resilience measures. The longer-term measures were tied to three potential recovery models and used guiding principles around preserving liquidity, protecting and growing the academic enterprise, increasing revenues and investing in University Advancement.

Enterprise Systems leveraged the use of existing and new technologies to make our administrative operations more efficient and cost effective. We provided employee education through training, workshops and conferences, and we launched a Lean Six Sigma program that provides professional development opportunities for our employees while improving our internal processes.

We performed a comprehensive review of the Foundation's business processes and made the move to a leading Customer Relationship Manager (CRM) program used in non-profit organizations within a budget neutral position. The Foundation business process review led to their decision to migrate accounting and finance responsibilities to Blackbaud Financial Edge NXT, providing a truly independent and autonomous relationship between the University and the Foundation.

There is no general agreement across the SUS on how to calculate % Expenditures on Instruction and the current configuration of our enterprise system will not support a calculation. For this reason, the system is moving towards an Administrative Staff-to-Faculty ratio. Because the calculation of this metric is largely title-driven and inconsistent with our titles, we are currently working on an "HR Re-engineering" project. Our Average Cost to the Students remains significantly better than our goal of less than \$14,000 at (\$5,790). It is negative because we provided support for room and board on top of tuition and fees.

### **Goal 15: Continue advocacy efforts to support University growth and reputation**

We held a legislative advocacy retreat with contracted lobbyists and university staff to identify key influencers and map our 2020 priorities and strategy. With this strategy in hand, we held 23 separate meetings with key stakeholders that included several members of the Board of Governors (including two meetings with Chair Kitson), House, Senate and Governor's office. We also further strengthened our relationship with the Florida Chamber of Commerce which resulted in video broadcasts of Dr. Avent on the state of the University and Dr. Razdan on the progress at AMI, as well as regular sharing of Florida Poly items on the Chamber's social media.

In early February the House introduced a bill to merge Florida Polytechnic into the University of Florida. We worked with our lobbying team to launch a positive campaign that raised legislative awareness of the impact Florida Poly was having and the bill was ultimately withdrawn. This positive campaign included a strategic priority list of meetings, communications and other outreach efforts, an internal analysis highlighting important context that was missing from their bill and a tight story on our differentiated value, what we add to the system and what was at risk with a merger. We used these facts to make public statements at both the House Education Policy committee and the House Education Appropriations Committee. In parallel, we worked through our media consultants to place positive stories about Florida

Poly in important political press publications and responded to TaxWatch to share our data with them as they conducted an independent analysis of the costs of the merger.

After the bill was withdrawn, we developed a plan for reducing the likelihood of future bills proposing to merge or close the University. The plan is based on lessons learned this session and includes continuing to build our strategic network, sharing a campus growth plan with key legislators, calculating administrative costs so they are consistent with others and communicating the true cost of STEM degrees.

With a new VP for Advancement, we reorganized the entire Division and set aggressive net production goals that were 350% more than the previous year. Even in the midst of a legislative crisis and a global pandemic, we met all goals for Unrestricted Funds (+\$226,105) and Endowment (+\$418,932), but missed our Scholarship Funds (-\$364,334) because we focused primarily on unrestricted and endowment (our new VP for Advancement was not here when I made these goals) We completed our first annual fund, a year-end campaign for alumni, community and faculty/staff. To track our progress throughout the fiscal years, a pipeline report was created tracking all solicitations for gifts we expect to book in future years. The current pipeline projection indicates we have pending solicitations totaling \$5,300,000 to date.


To promote Florida Poly's brand and reputation, we increased our media exposure by 24% and ensured an increase in the President's media presence through placement in six state-wide publications, resulting in a 50% increase over goal. We also increased our social media reach across all University channels by over 50%. To drive traffic to our website and increase awareness, we placed strong emphasis on creating high-quality, relevant content and in turn, we increased Search Engine Optimization (SEO) by over 5%. To improve our existing web content and support the communication goals of the University, we launched a new website and have increased new users of the Florida Poly Mobile app by over 10%.

We launched the Executive Leadership Initiative, which consists of virtual panel discussions by international dignitaries and key Florida stakeholders on topics of interest at the intersection of leadership in education, technology and government. The purpose of this initiative is to use international dignitaries to help us build important relationships and grow our reputation within the state. The first panel was on "Dilemmas and Perspectives of the 'New Normal' in light of the COVID-19 Pandemic" and was hosted by Dr. Michael Hawes, CEO of Fulbright Canada and Dr. Jose Calvo Ramon, Strategist for the Barcelona Supercomputer Center. The international luminary guest was Prof Emeritus Ernesto Kahah, a Nobel Peace Prize Laureate epidemiologist. Our Florida invitees were former Senator George Lemieux, Senator Jeff Brandes and Syd Kitson.

#### **Goal 16: Ensure a highly effective organization**

Human Resources improved campus-wide morale by adding an Employee Relations Specialist, expanding employee events to improve campus-wide camaraderie and awareness of opportunities, and offering a comprehensive training program for employees. Human Resources also promoted the hiring and retention of quality employees and worked with hiring managers to facilitate 184 new hires (including student workers), 28 promotions and 40 terminations.

To enhance our computing systems and services, we refreshed our network, server and computing platforms to significantly increase the expected lifespan. We also improved our system security by enhancing the confidentiality, accessibility and integrity of our institutional data.



We resolved and closed several litigation matters and completed review and approval of twelve policies and regulations. We successfully completed the first reopener negotiation for the Collective Bargaining Agreement with United Faculty of Florida - Florida Poly Chapter and completed the legal review of over 50 contracts. We responded to 67 public records requests within an average of 4.51 days of receiving the request.

To promote safety and security of the University we provided 10 Active Assailant classes to all faculty, staff and students. We continue offering these classes through HR onboarding to new employees while also providing educational safety, crime prevention, anonymous witness and see something/say. We attained a response time of 9.5 minutes or less 90% of the time ensuring a safe and secure campus environment.

Business Services was reorganized and rebranded to Auxiliary Enterprises for a more efficient organization and standardized operating procedures were created and implemented improving internal customer service.