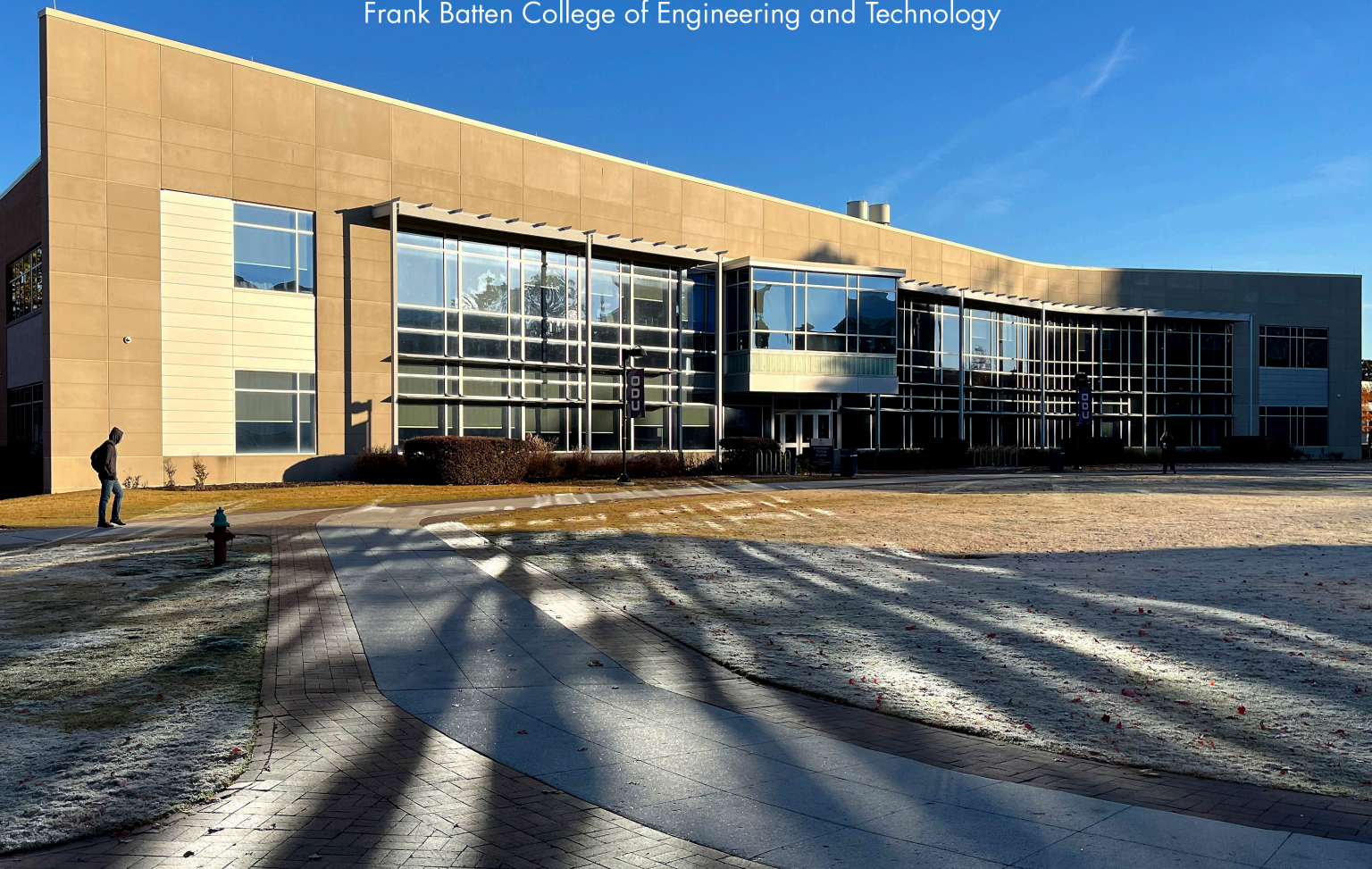




OLD DOMINION UNIVERSITY

Frank Batten College of Engineering and Technology



FOCUS ON THE FUTURE

FRANK BATTEN COLLEGE OF ENGINEERING & TECHNOLOGY

A STRATEGIC PLAN FOR 2030 AND BEYOND

“If I have seen further, it is by standing on the shoulders of giants.”

~ Sir Isaac Newton

Engineering education at Old Dominion University can be traced back to 1930 when the Norfolk Division of the College of William & Mary was founded. In partnership with Virginia Polytechnic Institute (now known as Virginia Tech), students could complete the first two years of their engineering studies and then transfer to VPI to complete their baccalaureate degree.

In 1962, the institution was granted independence as Old Dominion College. This included the establishment of a new School of Engineering. Kaufman Hall, constructed to house the new engineering program, was dedicated in 1965. The initial degree programs offered by the new School of Engineering received full ABET accreditation in 1967. Old Dominion College transitioned to Old Dominion University in 1969, which was the result of adding graduate degree programs. The School of Engineering became the first school at ODU to offer a doctoral degree in 1972.

In 1986, as part of a comprehensive reorganization of ODU, the School of Engineering became the College of Engineering & Technology. Then in 2003, as part of a \$32 million gift from Frank Batten, the college was renamed the Frank Batten College of Engineering & Technology. As part of the 50th anniversary celebration commemorating the establishment of the School of Engineering, the University held a groundbreaking ceremony for the 50,000 square-foot Engineering Systems Building (ESB), which opened in 2014.

The Frank Batten College of Engineering & Technology owes its future to the vision and dedication of the many faculty, staff, students, benefactors, and other supporters who created the foundation on which we look to build on today. As we look to the future and envision all we can be, including all our future students can be, we recognize and respect that we stand on the shoulders of the many giants who went before us.



“We are made wise not by the recollection of our past, but by the responsibility for the future.” ~ George Bernard Shaw

FOCUS ON THE FUTURE

Universities across the country are being called upon to reimagine engineering education and to prepare a new and diverse engineering workforce with deep technical and professional skillsets to address the large, complex technical and societal challenges of today and tomorrow.

This calls for an integrated approach to traditional teaching, research, and service mission with an emphasis on advancing the state of engineering knowledge and practice. The faculty and staff of the Frank Batten College of Engineering & Technology are enthusiastically dedicated to providing the highest quality educational experience for our students and to leading sponsored research with lasting, positive impact. To accomplish this, we simultaneously respect the history and heritage of the engineering profession and engineering education at ODU with a purposeful focus on the future, including the preparation of today's students to be valued members and leaders of the engineering profession and researchers that will lead our profession and society forward to a bright future.

Focus on the Future: A Strategic Plan for 2030 and Beyond is intended to define a positive trajectory for the Batten College with specific goals, objectives, and actions to advance the College through the fourth decade of 21st century. Stated differently, while the Batten College will celebrate the future accomplishments of our faculty, staff, and student and achievement of strategic goals, the true success of this plan will be the creation of a positive momentum that will define the Batten College as a leader in innovative engineering education and impactful research in the near future and beyond.



“Change your practices without abandoning your core values.” ~ Jim Collins

DEFINING OUR CORE VALUES

As we imagine the future and develop a plan to advance the Frank Batten College of Engineering & Technology, it is important for us to clearly define our core values. The following core values are fundamental to the Batten College, define our highest priorities, and are the fundamental perspectives that will guide us in service to our students and profession.

OUR UNIVERSITY

We embrace being a part of Old Dominion University and support its important role as a diverse, comprehensive, community-engaged, entrepreneurial, minority-serving, military-serving, R1-designated research institution.¹

OUR STUDENTS

We are committed to the success of our undergraduate and graduate students and to preparing them for lasting and rewarding careers through relationship-rich, future-focused curricula, including integration of emerging technologies, state-of-the-art learning environments, and robust experiential learning opportunities.

¹ In 2021, ODU was designated a Research 1 Institution by the Carnegie Classification of Institutions of Higher Learning, which places the University nationally among the highest level of research universities.



DEFINING OUR CORE VALUES *CONTINUED*

OUR SCHOLARSHIP

We are dedicated to leading and engaging students at all levels in inquiry-based, innovative research with high social and economic impact at the local, regional, national, and global levels, and to sharing the knowledge gained through our research for the betterment of society and our profession.

OUR COMMITMENT

We place a high level of importance on having a collegial, welcoming, empowering, dynamic, ethical, and professional learning and work environment for our students, staff, and faculty that supports both individual goals and the shared goal of advancing the College's mission, reputation, and recognition.



“A vision is not just a picture of what could be; it is an appeal to our better selves, a call to become something more.”

~ Rosabeth Moss Kanter

OUR VISION

The Frank Batten College of Engineering & Technology will be a nationally recognized leader in future-focused, student-centered engineering and engineering technology education, research, and innovation that ethically and equitably contributes to the sustainable economic and societal prosperity of the Hampton Roads region, the Commonwealth of Virginia, the nation, and the world.

“My mission in life is not merely to survive, but to thrive; and to do so with some passion, some compassion, some humor, and some style.”

~ Maya Angelou

OUR MISSION

The Frank Batten College of Engineering & Technology serves its students, the engineering profession, the Hampton Roads region, the Commonwealth of Virginia, the nation, and the world ethically and equitably through innovative and impactful research and future-focused educational programs that prepare the next generation of engineers, innovators, entrepreneurs, and leaders.



“Obstacles are those frightful things you see when you take your eyes off the goal.” ~ Henry Ford

STRATEGIC GOALS AND OBJECTIVES

The following strategic goals and objectives have been established with the purpose of guiding the Batten College to 2030 and beyond. The goals and objectives are consistent with our core values and will support our effort to fulfill our mission and achieve our vision.



GOAL #1 – ACADEMIC EXCELLENCE AND STUDENT EXPERIENCE

We will provide high-quality, future-focused educational and experiential learning opportunities to an increasing number of diverse, career-ready Batten College bachelors, masters, and doctoral students, who as graduates will be known for their technical knowledge, professional skills, high ethical standards, and intercultural awareness.

Undergraduate and Graduate Enrollment

For a variety of reasons, one of the most common metrics in higher education is enrollment. The recent enrollment trends in the Batten College have been flat or in a slight decline with academic year 2021-2022 enrollments of approximately 2000 bachelors, 550 masters, and 220 doctoral students. We will increase the number of undergraduate and graduate students enrolled in the Batten College by over 50% with a target of enrolling over 3000 undergraduate, 800 masters, and 350 doctoral students by 2030 through a combination of offering innovative programs, experiences, and financial support.

Undergraduate and Graduate Degrees Awarded

With a dramatic increase in enrollment, the Batten College will double the number of bachelor’s, master’s, and doctoral degrees awarded annually. Ultimately, it is the degreed students that will define our future success in positively contributing to the engineering profession, the Hampton Roads region, the Commonwealth of Virginia, the nation, and the world. During academic year 2021-2022, the Batten College awarded 377 bachelors, 212 masters, and 26 doctoral degrees. By 2030, we will award annually upwards of 800 bachelors, 400 masters, and 50 doctoral degrees.

Diversity, Inclusion, and Access

In addition to increasing our enrollment and degree production, we will also focus on increasing the diversity of students enrolled and earning degrees. Our emphasis on increasing diversity will be broad and include a focus on making engineering more inclusive, accessible, and welcoming to students from all backgrounds, including

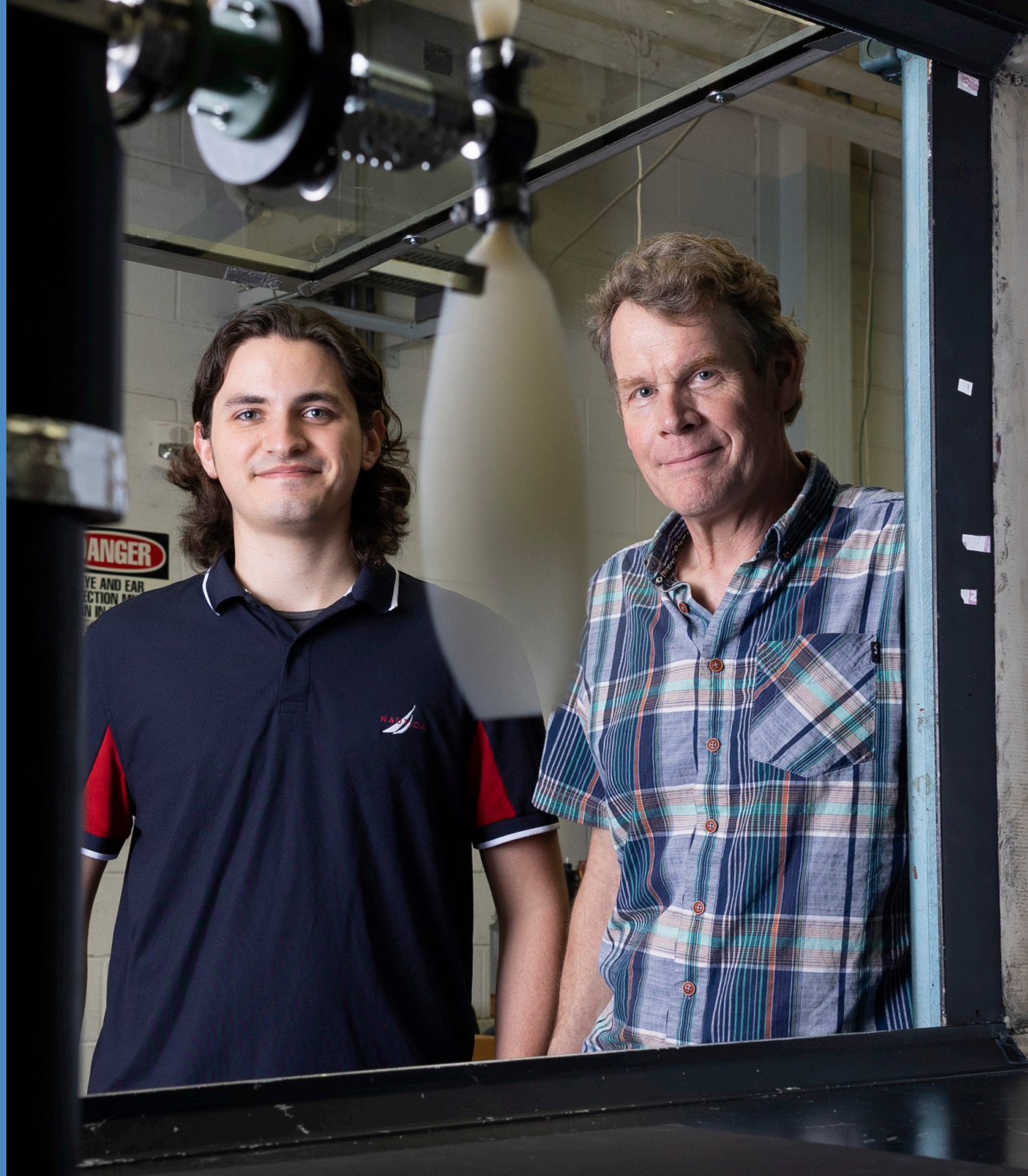
traditionally underrepresented communities and identities, active and retired members of the military and their families, and first-generation college students. In academic year 2021-2022, 19% of our students were female with this same percentage earning a degree, and 46% were students of color, including 28% Black or Hispanic students, with 37% of our students of color and 20% of our Black or Hispanic students earning a degree. We will work purposefully to recruit and retain a higher percentage of women and students of color, while continuing our focus on supporting the success of all our students, including the success of our first-generation and military-affiliated students.

Time-to-Degree and Experiential Learning

Engineering and engineering technology curricula are some of the more demanding areas of study, which often results in a longer time to degree for students, even the most well-prepared student. On top of this, engineering is a profession of practice, and students are expected to gain practical experience in parallel with completing their program of study. Historically, most freshman entering the Batten College take well over 5 years to complete their degree, with doctoral students averaging approximately 6 years. We will transform our curricula by defining the future “ODU Engineer,” which will include the technical and professional skills expected to be in demand in the future while reducing the average effective time to degree for well-prepared students to 4 years for a bachelor’s degree or a doctoral degree and 1 year for a non-thesis master’s degree.* We will also increase co- and extra-curricular opportunities for our students to gain valuable engineering experience outside the classroom.

*Effective time to degree will account for common situations such as students completing a cooperative education program or internship during a regular academic semester and/or students who may not be academically prepared to enter their chosen career (e.g., not being calculus-ready and pursuing a B.S. degree in engineering).

STRATEGIC GOAL #2



GOAL #2 – RESEARCH AND INNOVATION

We will increase and sustain the Batten College’s success in securing external funding for, engaging students in, and disseminating results of innovative research that advances the state of knowledge and has high social and economic impact in our local, regional, national, and global communities and on our profession.

Sponsored Research

For a variety of reasons and similar to enrollment, an important and common metric in higher education, particularly in engineering, is sponsored research expenditures. We will strategically and dramatically increase the Batten College’s annual sponsored research expenditures by over a factor of three. Batten College faculty were responsible for \$8.7M in externally sponsored research expenditures for fiscal year 2021. ODU designates several enterprise centers as engineering research centers, and these centers were responsible for an additional \$11.8M in sponsored research expenditures. Through a variety of strategic initiatives and focused investments, the Batten College will expand its research portfolio and increase the sponsored research expenditures our faculty are responsible for to over \$25M by fiscal year 2030. Through partnerships and collaborations, we will also contribute to increasing the sponsored research expenditures associated with engineering-related university research centers to over \$25M by fiscal year 2030. Thus, in total, the Batten College and engineering-related research centers will collectively be responsible for over \$50M in externally sponsored research.

Tenured, Tenure-Track, and Research Faculty

The research enterprise is primarily driven by our faculty. We will strategically seek to hire additional faculty in priority areas and where significant opportunities for growth in sponsored research exists, thereby increasing the overall size of the Batten College faculty, specifically faculty who will be fully engaged in sponsored research. The Batten College had 88 tenured and tenure-track faculty in 2022, and we will increase this by approximately 50% to at least 130 by 2030. Additionally, the College does not have a history of employing nontenure-track research faculty (e.g., research professors specifically dedicated to sponsored research and

analogous to nontenure-track teaching faculty exclusively focused on teaching), but we will seek to add at least 10 research faculty by 2030.

Innovation and Patents

In addition to research expenditures, patents are another important research metric. They are a measure of innovation, lead to development of new products and processes, and can result in a high economic impact. During the 3 years prior to launching this plan, the Batten College faculty submitted 2 patent applications but were not awarded any new patents. We will markedly increase the number of patent applications and awards to at least 15 and 10, respectively, per year. We will also promote innovation with our students and encourage them, when appropriate, to seek patents for their own inventions.

Research Infrastructure

The ability for faculty to successfully compete for and conduct forward-looking research is related to and enabled by our research infrastructure, including facilities, equipment, policies, and procedures. Having proper research facilities and equipment also significantly improves the College’s ability to recruit and retain top faculty. The College will determinedly improve the research infrastructure within the College and, in collaboration with other units across campus.

Awareness and Recognition of Research

It is important that the Batten College’s faculty and students be recognized on campus, by peer institutions, by professional organization and the public for their innovative and impactful research. The Batten College will purposefully increase the internal and external awareness and recognition of research activities and accomplishments of its faculty and students through targeted announcements, newsletters, and relevant releases to the media.

STRATEGIC GOAL #3



GOAL #3 – LEARNING AND WORK ENVIRONMENT

We will foster a welcoming, inclusive, and collaborative culture that supports the recognition of the Batten College as a community dedicated to excellence and scholarship in engineering education, research, and innovation.

Inclusive College Environment

The Batten College is dedicated to having a welcoming and inclusive environment with the expectation to support the success of our faculty, staff, and students regardless of background or identity. We will implement and assess a variety of training opportunities and share best practices to help our faculty and staff promote an inclusive environment throughout our college, including in our classrooms, research labs, student success programs, student organizations, administrative offices, and faculty/staff meetings. The Batten College is particularly dedicated to having a welcoming and inclusive learning environment for our students. This commitment creates an expectation for the faculty and staff to continuously strive to serve the needs of our students, regardless of background or identity, along with being supportive of the students' engagement and comprehension of subject material. This includes incorporating diversity perspectives into course content and creating an inclusive classroom, collaborative, and research spaces.

Sense of Community and Pride in the Batten College

The success of the Batten College is a true reflection of the success of our students, staff, and faculty. An important element to individual success is a strong sense of community and pride in the College, which includes a sense of community and pride in more “local neighborhoods” (departments, support units, and organizations). Key elements that contribute to a sense of community and pride include open communications, a clear acknowledgement of “having one’s voice heard” and opinions valued, opportunities to celebrate accomplishments in both formal and informal settings, and chances to gather socially in addition to routine business gatherings.

We will develop and evaluate a variety of purposeful programs to enrich the sense of community and promote a true feeling of pride in being a part of the Batten College of Engineering & Technology.

Student, Faculty, and Staff Affinity Groups and Communities

Whether it is a student studying to be an engineer, a staff member contributing to any of the operations within the Batten College, or a faculty member focused on teaching their classes or engaging students in their research, their success is linked and dependent on the Batten community as a whole. The Batten College will support the expansion of current and creation and new affinity groups and communities that have shared interests, goals, and/or identities, including living learning communities for our students.

Industry and Alumni Engagement with Faculty and Students

Universities, in general, rely heavily on alumni relations for a wide range of purposes, including input on programs, providing pre-career mentoring to students, and fund-raising. Engineering, as a profession of practice, also prioritizes industry involvement for these same reasons, as well as providing experiential opportunities, real-world design projects for students, and employment opportunities for graduating students. To have meaningful and sustained relationships with industry and alumni, we must provide timely and directed programs and opportunities for engagement. The Batten College will work closely with industry and alumni to design, execute, and assess a robust suite of engagement opportunities and programs to meet their needs which also helps us fulfill our mission and achieve our goals.



GOAL #4 – COMMITMENT TO FACULTY AND STAFF

We will be recognized for our unwavering commitment to and success in recruiting, developing, retaining, and supporting an outstanding and diverse faculty and staff who are dedicated to fulfilling the mission and vision of the Frank Batten College of Engineering & Technology.



Collaborative Environment and Support Programs

We must recognize the challenges and difficulties inherent in organizations like the Batten College. Individual faculty and staff easily feel overwhelmed, even isolated, because of the many tasks and deadlines faced on a regular basis. It is imperative that we foster a collaborative and supportive team environment through cross-training. It is equally imperative that we critically evaluate current operations to reduce, even eliminate, unnecessary or overly burdensome duties and processes while also use creativity in identifying additional resources needed to support our staff and faculty as they fulfill the vision and goals that we have collectively established for the Batten College.

Faculty and Staff Professional Development

Supporting the professional development and advancement of our faculty and staff is critical to the Batten College's long-term success. Whether improving current knowledge, skills, and performance or expanding knowledge and skills into new areas, we must and will invest and support the people who are responsible for fulfilling our mission.

Faculty and Staff Recognition Programs

The Batten College has dedicated and thoughtful faculty and staff, and we must clearly and regularly demonstrate our appreciation for their contributions and recognize their individual and collective successes. The Batten College will establish an internal awards program, nominate qualified individuals and units for university and national awards, and celebrate major and milestone accomplishments.



ODU

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