

# HAMPTON UNIVERSITY CAPABILITIES STATEMENT



## CORPORATE CONTACT:

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## GEOGRAPHICAL COVERAGE:

Physically located on the eastern seaboard within driving distance of the nation's capital, Hampton University has the capability to perform anywhere in the world.

## AREAS OF EXPERTISE:

- Accelerator Physics
- Accounting and Systems Analysis
- Atmospheric and Planetary Sciences
- Aviation and Unmanned Aircraft Systems
- Biotechnology
- Cancer Research and Treatment
- Community Based Participatory Research
- CRISPR/Cas
- Cyber Security
- Digital Media Innovation
- Drug Design and Drug Delivery
- Drug Information Services
- Education
- Genetics and Genomics
- Health Disparities
- Investment Portfolio Analysis
- Logistics and Supply Value Chain Management
- Medical and Biomedical Physics
- Medication Therapy Management
- Nanotechnology
- Next Generation Sequencing
- Nuclear Physics
- Particle and Nuclear Physics
- Proton Radiation
- Public Awareness Campaigns
- Public Policy
- Radio Broadcasting
- Transportation Management

## DUNS No.

003135068

## CAGE CODE:

4W066

## NAICS CODES:

541511  
541611  
541614  
541690  
541711  
541712  
541720  
541910  
561990  
611710  
712110  
923110

## SIC CODES:

0781  
4731  
7299  
7371  
8299  
8412  
8731  
8732  
8742  
9411

## UNIQUE CAPABILITIES AND RESOURCES:



**Proton Therapy Institute** – This is the largest free-standing proton therapy facility in the world. The Hampton University Proton Therapy Institute (HUPTI) is a state-of-the-art treatment, research, training, and educational facility that provides non-invasive and localized treatment of prostate, breast, brain, spine, head, neck, lung, GI, pediatric and other cancers. HUPTI features five treatment rooms that include four gantries and one fixed-beam treatment room, and a separate research room. Equipped with the most advanced and precise form of cancer treatment to date, HUPTI has treated thousands of patients to date.



**Center for Atmospheric Sciences**– This center leads three earth-observing satellite programs and an instrument with the latest technology in satellite ozone profiling launched to the International Space Station in February 2018. The Center has total mission responsibility for NASA’s Aeronomy of Ice in the Mesosphere (AIM) mission, which analyzes polar mesospheric clouds, providing the basis for study of long-term variability in the mesospheric climate and its relationship to global change. It has also established a severe weather research center with a direct broadcast-receiving antenna at the Harbor Centre location that captures real time images every hour, providing frequent updates to meteorologists at National Weather Service and other government agencies.



**DoD Center of Excellence for STEM Education** – This center provides resources for education through its initiative with Army Research Labs (ARL) and ARL affiliates. The Center collaborates with STEM researchers across institutions to create and provide activities, mentoring and support for broader outreach and impact for minorities in STEM. The Center actively seeks to create innovative ideas for exposure and retention of minorities in STEM disciplines and workforce through external summer internships, academic year intervention and workforce development that will be disseminated through summative reports and peer-review publications.



**NOAA - Living Marine Resources Cooperative Science Center (LMRCSC)** for the past 20 years with awards of more than \$3M to students for stipends, travel, assistantships, scholarships, and research. Research conducted in the Center has focused on coastal and ecological problems. Studies that have been completed include: 1) feeding and reproductive ecology of gelatinous zooplankton; 2) role of primary productivity and sediment processes on oxygen concentrations in the Chesapeake Bay (CB); 3) behavioral ecology and ecophysiology of CB fisheries resources; 4) conservation biology of marine mammals; 5) global climate change; 6) sustainability and green energy technology; 7) aquaculture and technology 8) deep sea red crabs molecular study.



**Partnership to Enhance General Aviation Safety, Accessibility and Sustainability (PEGASAS)** – The Department of Aviation is a partner in the Federal Aviation Administration (FAA) Center of Excellence for General Aviation. We are currently performing research to reduce the number of runway incursions at commercial airports. Runway incursions are one of the primary runway safety concerns in the flying community.

**Cancer Research Center** – The mission of the Cancer Research Center is to foster collaborative, transdisciplinary research and apply novel strategies to prevent cancer, improve patient outcomes and eliminate cancer disparities while educating and training future physicians and scientists in the science of cancer biology. The Cancer Research Center is a matrix organization comprised of investigators from the Schools of Science, Pharmacy, Nursing, and Departments of psychology and sociology. Its areas of expertise include: Genetic/Genomics; Genetic/Molecular Epidemiology; Genomic editing; Flow Cytometry; Bioinformatics and Statistical Analysis (R, SPSS); Cancer Epidemiology; Radiation Biology; Clinical-Translational Medicine; and STEM Education in Minorities.

**Center for Fusion Research and Training** – This center conducts state-of-the-art research in the area of controlled thermonuclear fusion. It is the first and only Center for controlled thermonuclear fusion research at an HBCU nationwide. It is the only Center for fusion research in the state of Virginia. The Center is THE world leader in the symplectic mathematical maps for trajectories of magnetic field lines in toroidal magnetic confinement devices such as tokamaks and stellarators. The Center has pioneered the new research area of symplectic maps for field lines in fusion science. The Center has research collaboration with Columbia University, General Atomics and the Princeton Plasma Physics Laboratory.

**Information Assurance and Cyber Security Center** – This Center is designated as a National Center of Academic Excellence in Cyber Defense Education by the National Security Agency and the Department of Homeland Security through 2021. It provides information assurance and cyber security program and curriculum development services, workshops, multidisciplinary research opportunities, and outreach to other HBCUs/MSIs and community colleges.

**National Resilience Initiative Network** – The School of Architecture represents the Mid-Atlantic region in this coalition of organizations that help local communities prepare for and adapt to natural challenges related to sea level rise.

**Hampton University's Virginia Workforce Innovation and Entrepreneurship Center (VWIEC)** - VWIEC was established in October 2020 through the Department of Education Reimagine Workforce Preparation Grant. VWIEC is a Hampton University entity (a) that operates on behalf of the Virginia Board of Workforce Development in partnership with Old Dominion University. The center serves as a statewide nexus of support by synthesizing the resources of two- and four-year institutions of higher education, experts in the public and private business sectors, and workforce agencies. VWIEC fulfills a critical niche in the small business development arena. In three years, VWIEC has assisted over 2,800 Virginia residents throughout the entire State with their entrepreneurship journey. Through partnerships and campus resources, services provided include mentorship, education, networking, pitch competitions and assistance with financing strategies. As of this year, VWIEC participants have employed over 1,300 Virginia residents and declared approximately \$31 million dollars in revenue. Of the 150 participants in the final phase of the program, it is estimated that their economic impact is the employment of 346 Virginia residents, labor income of \$19,593,948, value added contribution to the GDP of \$30,842,578 and a total economic change of \$56,346,752 (IMPLAN Estimate, 2023).

