NORTH CAROLINA A&T STATE UNIVERSITY
PUBLIC HEALTH RESEARCH CLUSTER
WHITE PAPER

I. Vision

A. Composition

The vision of the Public Health Research Cluster (PHRC) at North Carolina Agricultural and Technical State University (NCA&T) is to become an excellent public health research and educational resource for the local communities, the state, and the nation. It will provide a framework to improve, promote, and facilitate public health-related research projects and programs. Within this framework, the PHRC will develop highly productive interdisciplinary and multidisciplinary research teams that work in basic and applied public health. On the NCA&T campus, the PHRC will identify and bring together appropriate University faculty members who are doing top-notch research in public health and coordinate efforts among the various internal departments, divisions, centers, institutes, and programs. Effective work in public health also requires the active participation and involvement of policy decision makers and community citizens. The PHRC will facilitate the collaborations and partnerships between NCA&T and government agencies, foundations, centers, institutes, and private industries.

The basic underlying goal of public health research, evaluations, and assessments is to advocate for changes (in policies, behaviors, practices, conditions, etc.) to ensure that everyone will stay healthy. To that end, it requires the collective knowledge and experience of investigators as well as novel approaches spread across many disciplines. The following colleges, schools, divisions, and institutes have been engaged in public health related research projects and health and wellness programs over the past several years:

- College of Arts and Sciences
- College of Engineering
- School of Agriculture and Environmental Sciences
- School of Business and Economics
- School of Education
- School of Graduate Studies
- School of Nursing
- School of Technology
- Student Health Services
- University Studies
- Waste Management Institute

Within these schools and colleges, the pertinent areas of research include but are not limited to:

- Behavioral Sciences
- Biology
- Biostatistics
- Biomedical
- Biotechnology
- Business
- Clinical Research
- Environmental Chemistry
- Environmental and Occupational Health
- Epidemiology
- Health and Wellness
- Health Disparities
- Human Nutrition
- Journalism
- Management
- Medicine
- Microbiology
- Molecular Biology
- Physical Life Sciences
- Physics
- Social Sciences
- Toxicology

Together the partners of the PHRC will create a research-driven infrastructure that stimulates innovation and cultivates creativity and discovery. These innovations will be relevant to the community and also focus on student participation and learning. The Center will do all of this through integration of resources and development and promotion of a collaborative culture. In summary, public health requires a

team approach of individuals with a diversity of knowledge and expertise working collectively to understand, improve and prevent human diseases. It is truly a collaborative effort!

B. Role

The applications of basic and applied public health are so broad, and the advantages so compelling, that virtually every segment of society is involved in some aspects of protecting and advancing the health and well being of communities and populations. Research developments and advancements made in public health over the years have allowed us to better understand the molecular and genetic processes that underlie life, as well as the social and cultural factors that contribute to one's health and wellness. Thus, an unprecedented opportunity for public health research development and advancement exists.

Research in public health has made significant contributions to the overall health and well being of humanity over the years. Advances in biomedical research have led to remarkable improvements in the prevention, diagnosis, and treatment of human illness. Knowledge of chronic and acute health conditions generated over the past few years provides the foundation for much of the basic and applied public health related research in the new century. The arts, sciences, and practices of public health will play a major role in improving the health of local, state, national and global populations in the future. Continued improvements in quality of life will require an even better understanding of the development and progression of common diseases.

The major foci of this century will be new diagnostic advances, more effective treatment options, better ways to prevent some diseases, and ways to delay the onset or progression of other diseases and disabilities. Identification of the major determinants of human health is also one of the major challenges of the 2st century. Addressing the public's health in the 21st century will require a population-based approach in research, practice, and community participation. Research and education through entities such as universities must interface with community populations and health care providers to generate highly effective public health actions and solutions.

The future effectiveness of public health will require a well-educated cadre of professionals who have interdisciplinary training that prepares them to act globally and who understand the major determinants that grossly affect the public's health. Health care providers and support services are experiencing a dwindling workforce across the health industry. The demand for public health professionals is projected to increase dramatically. Governmental and private health care organizations and colleges and universities must meet the challenge of encouraging more individuals to enter into the professional fields of public health. Because the representation of racial and ethnic minorities in public health professions remains disproportionately low, it is especially important that HBCU's like NCA&T take the lead in recruiting students into careers in public health.

II. Definition

A. Mission and Goals

The research areas of the PHRC will cover public health issues over the complete hierarchy of human aggregation -- municipality, state, nation, and world. The research will be collaborative, interdisciplinary, and multidisciplinary and comprise both basic and applied areas. The PHRC will be dedicated to improving public health through research discoveries, key learning, education and advocacy, and communication. The cluster will:

- Serve as a forum for diverse viewpoints on major health problems.
- Promote and facilitate a robust and broadly based environment for research in minority health concerns that sustains funding.
- Encourage new synergistic and collaborative research efforts among faculty within the PHRC and across the academic departments, divisions, centers, institutes, and programs.
- Promote, assist, and support the building of an increased capacity for research and service activities in the minority and other medically underserved communities.
- Use interdisciplinary learning, discovery, engagement, and operational excellence to develop intellectual capital.
- Develop models of practice in public health and increase public and professional awareness and understanding of public health problems and their solutions.
- Advance public health policy, practice, and education through research, methods and program evaluation.
- Study the influences of health processes and the societal, cultural and environmental dimensions of health.
- Address the need (a) for better management of diseases; (b) for activities that prevent health problems; (c) for activities that lead to improved diagnosis and treatment of health problems; and (d) for activities that lead to an increase in the quality of life in minority populations.

The PHRC's programmatic and strategic focus will be upon the: (1) elimination of the disparities in health and health care; and, (2) the minimization of exposure to environmental factors that set the stage for disease initiation and progression. This includes developing an integrated, cross disciplinary research agenda on health disparities and environmental health that reflects the current and emerging health needs of racial and ethnic minorities and other population groups.

B. Health Disparities Research

Life expectancy and overall health have improved in recent years for a large number of Americans due to an increased focus on preventive medicine and dynamic new advances in medical technology. However, not all Americans are benefiting equally. Local, state, and national public health research projects in epidemiology document the fact that there are continuing disparities in the burden of illness and death that disproportionately affect minority (African Americans, Hispanic Americans, Asian Americans/Pacific Islanders, and Native Americans /Alaskan Natives), underserved, and underrepresented populations as compared to the U.S. population as a whole. Statistical reviews show that there is a disproportionate toll of certain diseases [heart disease, cancer, stroke, diabetes (the four top killers), as well as other diseases] on racial and ethnic populations. These continuing disparities highlight the need for improved prevention and treatment of diseases and greater allocation of resources to reduce the loss of life.

The most interesting and challenging research on health disparities to date has focused on efforts to better understand the causal mechanisms underlying the genesis, reproduction, and persistence of

disparities. Most chronic diseases in humans arise from a complex array of factors. Some of the factors that lead to health disparities are access to health care systems; behavioral choices; genetic predisposition; environmental and occupational conditions or exposures; poverty; a myriad of social, cultural and economic factors; discrimination in the health care setting; age; nutritional status; and a person's stage of development. Obviously, these are not mutually exclusive categories, and specific causes may interact with one another to produce health disparities. Reducing health disparities calls for interventions that address all of these component causes.

The United States Department of Health and Human Services, in a report entitled *Healthy People 2010*, established two primary public health goals that we as a society should work toward. They are to: (1) increase quality and years of healthy life; and (2), eliminate health disparities among different segments of the population. In the *Healthy People 2010* document, twenty-eight focus areas were recognized with the basic premise being improvements in these areas would assist in eliminating health disparities. These areas are:

- Access to quality health services
- Arthritis, osteoporosis and chronic back conditions
- Cancer
- Chronic kidney disease
- Diabetes
- Disability and secondary conditions
- Educational and community-based programs
- Environmental health
- Family planning
- Food safety
- Health communication
- Heart disease and stroke
- HIV / AIDS
- Immunizations and infectious diseases
- Injury and violence prevention
- Maternal, infant, and child health
- Medical product safety
- Mental health and mental disorders
- Nutrition and obesity
- Occupational safety and health
- Oral health
- Physical activity and fitness
- Public health infrastructure
- Respiratory diseases
- Sexually transmitted diseases
- Substance abuse
- Tobacco use
- Vision and hearing

While the diversity of the American population is one of the Nation's greatest assets, one of its greatest challenges is reducing the profound disparity in health status that affects America's racial and ethnic minorities and other selected populations when they are compared to the population as a whole. Although some of the causes of disparate health outcomes, such as differences in access to care, are beyond the scope of biomedical and bio-behavioral research, the PHRC can play a vital role in addressing and easing health disparities involving cancer, cardiovascular disease and stroke, diabetes, HIV/AIDS, immunizations, infant mortality, and many other acute and chronic diseases. Accordingly, the PHRC has made health disparities a priority.

C. Environmental Health Research

The environmental health sciences promote the health and well being of individuals and communities (sometimes large and wide-spread) by working to maintain or create safe environments in which to live and work. The overall aim of the research programs in environmental health is to improve human health through the identification, prevention, and minimization of exposures to hazardous environmental agents and the resultant health consequences.

Researchers in environmental health sciences study the health effects that can arise from exposures to chemical, biological, or physical agents, or even behavioral practices. Exposure to these toxic agents can be through the air we breathe, the water we drink, the food we eat, and the manner in

which we go about our lives and our work at every stage of life. As public health researchers, we are poised to more efficiently and more precisely identify the environmental components that set the stage for disease initiation and progression. Thus, environmental health includes chemistry, physics, biology, occupational health, toxicology, and human nutrition. Food safety, nutrition, and, more recently, bio-security issues are also concerns. We may soon be able to pinpoint the environmental factors that induce molecular changes in a cell within the human body that begin a chain of events that produces cancer, Alzheimer's, Parkinson's, or other chronic conditions.

The economic impact of these health and safety issues is very significant. The preventable diseases that result from these environmental exposures cost the Nation billions of dollars each year. The ability to investigate and understand issues in environmental health requires collaboration between many scientific disciplines: epidemiology, toxicology, molecular biology, clinical sciences, and many others. While the individual investigator approach remains the cornerstone of innovation in environmental health science and technology, highly effective solutions often require a team approach. Researchers in these varied areas use novel approaches developed at the boundary of several disciplines. Thus, environmental health is a multidisciplinary field grounded in the physical and life sciences that has applications to the social, management, and political sciences.

Health disparities have received growing attention in recent years from the environmental health research community. A variety of environmental exposures (e.g., outdoor air pollution, extreme heat, exposure to lead in homes) have been linked to health disparities. For example, the excess mortality risk associated with air pollution has been shown to be greater among lower socioeconomic groups. These disparities simultaneously reflect the unequal burden of exposure to pollution among different socioeconomic groups and the unequal impacts of a given level of exposure on vulnerable individuals.

The PHRC has the opportunity to take a leadership role in facilitating and promoting research into the biological effects of exposure to environmental agents. This will be done to understand and predict how such exposures affect human health. Current research models suggest that there are three fundamental components that influence human health and the disease effects of environmental exposures: (1) the nature of the exposure itself; (2) the duration of that exposure in terms of time, age and behavior; and (3), how well the exposed human is equipped to deal with the exposure, in other words the genetic susceptibility.

Faculty members will engage in research that spans the breadth of problems in environmental and occupational health. In particular, they will (1) investigate the development and applications of miniaturized (micro and nano) sensors, (2) model the transport and ultimate fate of environmental contaminants, (3) assess environmental health risks and develop plans to reduce the risks or their effects, and (4) do research in the areas of mechanistic toxicology and environmental and occupational epidemiology. They will do this through integration of perspectives from multiple disciplines and exploration of complex causal pathways.

Research programs in environmental health are central to preventing widespread occurrence of major infectious and chronic diseases. These research programs can provide the necessary tools and solutions needed to enhance the practice of public health in the 21st century. As a core area of public health, the environmental health research program will promote the health and well being of individuals and communities by working to maintain or create safe environments in which to live and work. Researchers from across the various departments, divisions, centers, institutes, and programs will be encouraged to join in this important mission that will develop excellence in its research projects.

D. Strategic Objectives

To achieve its mission and goals the PHRC will effectively understand and prevent public health problems across multiple levels of variables that influence health. The PHRC will seek to promote a higher quality of life for populations and groups through interventions. To those ends, the strategic objectives supportive of the PHRC will have a collective emphasis upon:

- Developing a research infrastructure and faculty careers.
- Increasing the number of minority students and other students from groups that have health disparities (who are now underrepresented in public health) who have an interest in careers in biomedical and bio-behavioral research.
- Increasing the level of extramural funding within the PHRC by leveraging collective strengths to submit competitive research proposals.
- Increasing the effectiveness of outreach and educational programs.
- Promoting research on behaviors that lead to elevated risk factors for acute and chronic diseases that will improve the health of individuals and the community.
- Building and strengthening mutually beneficial, long-term alliances, collaborations, and partnerships with units on NCA&T's campus (academic departments, divisions, centers, institutes and programs) and with governmental organizations, foundations, other academic institutions, and private corporations.
- Increasing research opportunities in public health related disciplines for minority researchers.
- Increasing visibility and reputation of the PHRC through publication and dissemination of research findings and active participation in local, state, national and international meetings.
- Supporting the overall mission and goals of the newly established Institute for Public Health (IPH), especially its goals in public health related research.
- Maintaining and assessing involvement in internal and external activities (events, seminars, conferences, and programs) related to public health,

III. Impact

The outcomes of the mission and goals of the PHRC will affect everyone. The development of solutions to public health problems is relevant to the health and wellness of all populations and all of humanity. The impact of the PHRC will be measured in terms of the contributions made toward the improvement of human health and wellness through the expansion of factual knowledge and the transfer of that knowledge to the citizens, healthcare providers, and policy decision makers. This will be done through the development of an excellent, self-sustaining entity that does interdisciplinary research in public health. The PHRC will foster excellence in research activities on public and environmental health that improve the quality of life and the environments in which we live and work. It will reinforce interdisciplinary and multidisciplinary collaborations and synergies that increase research productivity.

From an operational perspective, the PHRC success will be driven by two primary factors: enhanced research capabilities of NCA&T in public health research; and, enhanced visibility and competitiveness of NCA&T across the cluster's programs and research focus areas.

IV. Background

Public health impacts all aspects of our society. Public health applications are broad and very diverse. The advantages of sustaining excellence in these applications are so compelling that the basic and applied aspects of public health constitute an interdisciplinary and multidisciplinary field of study. The goal of research in public health is reducing preventable morbidity and premature mortality, and promoting a higher quality of life in populations and groups through interventions. From scientific research to health education, the field of public health has a positive impact upon the social, cultural, environmental and economical factors that contribute to the overall health and wellness of populations and communities. Unlike medical providers, who are interested in the health of individuals, public health providers are interested in the health of the community as a whole. Health care is vital to all of us some of the time, but public health is vital to all of us all of the time. The major responsibility of public health is protecting and improving the collective health of the community. To that end, public health practitioners must explore the context of people's lives to fully diagnose and evaluate the intersection of issues and factors that impact community wellness.

V. Research Challenges

Our primary challenge is to embrace this unprecedented opportunity to build on our strengths to establish and develop the PHRC as the coordinating campus entity for long term strategic planning to advance public health research that helps society. There are several other challenges that impact the area of public health research at NCA&T. These challenges must be acknowledged and incorporated into the overall strategic work plan for the PHRC. NCA&T is not the only university to recognize growing opportunities in public health research. A number of universities are pursuing this direction. Thus, establishing and maintaining strategic alliances, collaborations and partnerships; and aggressively pursuing research across the areas of focus are both very critical.

Within NCA&T, a challenge is creation of a cross-disciplinary infrastructure that transcends departmental barriers and lends itself to the integration of research and education in the vital fields of public health. The cluster needs to: (1) promote public health as a unifying research and education discipline, (2) develop multidisciplinary curricula for training the new generation of graduate students, and (3) recruit talented undergraduate and graduate students (including underrepresented groups) into this field of public health.

Dissemination of information is another challenge. The PHRC must find ways to move information gained through research (knowledge and information from the laboratory, the office, the publication, etc,) to the citizens, healthcare providers, and decision makers. An ongoing challenge is educating politicians and decision makers about the collective potential to improve the health and well being of populations through improvements in policy and practice. The PHRC must establish a clearinghouse as part of its structure for effective dissemination of research materials, courses, and applied research findings, etc. Information will also be conveyed through appropriate alliances, collaborations, and partnerships. Such relationships are critical to having a significant impact upon the health and wellness of the populations. These relationships are strengthened when the research sponsor is shown that it ultimately benefits and that investments with the PHRC provide returns on R&D funds.

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The advancements and developments of new knowledge, technologies, applications and practices are all closely linked to strong public health research. The PHRC must be aware of current and projected trends so the necessary research can be implemented.

VI. Assets

NCA&T has rich, extant public health related resources in its colleges, schools, centers, institutes and programs. The members of these groups are currently engaged in research, programs, and courses of study that contribute to the broad areas and disciplines of public health (Attachments A and B). These collective resources will contribute significantly to the successes of an interdisciplinary PHRC. NCA&T is certainly well positioned to address present and emerging needs and issues in health care throughout local, state, national, and international communities.

The PHRC will leverage the existing resources (people, funds, and hardware) of the University to achieve stated goals. This cluster's resources include: (1) state-of-the-art equipment housed at facilities and laboratories located on campus; (2) faculty experts and experienced research associates; (3) extensive experience with a variety of research programs and projects; and (4) the strategic partnerships and collaborations discussed previously. Human resources include faculty and staff members from various departments, divisions, centers, institutes and programs (Attachment B). These collective resources will provide the assets needed to found the PHRC and to foster and develop a focused environment for research and education that promotes excellence.

A. The Institute for Public Health

In August 2005 (NCA&T) launched an Institute for Public Health (IPH). The University's strategic vision of *Uncompromising Excellence* focuses the University on interdisciplinary, scholarly activities in a learner-centered environment. The IPH, the most recent initiative in support of this vision, reflects the array of talents, interests, and research of the faculty, the strengths of the established academic programs, as well as the ongoing commitment of the University to serve the health and safety needs of the local, national and international communities.

The mission of the IPH is to improve the public's health and address health disparities through interdisciplinary discovery, learning, and engagement. The IPH will focus on environmental, social, educational and economic factors that impact health in the underserved and underrepresented populations. Aligned with its mission, the IPH has seven strategic goals, two of which are focused specifically upon public health research. Those two goals state that the IPH will: foster interdisciplinary research that addresses public health issues, especially those that disproportionately affect underserved and underrepresented populations; and, establish community-based participatory research and outreach that identifies and addresses health care issues and disease prevention. From a strategic perspective the ultimate intent of the IPH, as it works on campus, is to serve as the coordinating entity for current and future research needs in interdisciplinary and multidisciplinary public health research that meets the needs of the greater society.

The PHRC is designed to reinforce interdisciplinary and multidisciplinary collaborations, partnerships, and synergies to increase research productivity across the campus of NCA&T. In keeping with its mission and two primary goals the IPH working in partnership with the Division of Research and Economic Development will assume responsibility for fostering the achievements of the PHRC. It will serve as the focal point to advance research in public health by submitting applications to funding agencies, and by helping to ensure that the agreed upon contractual commitments and goals are being fulfilled.

Over the past several years NCA&T faculty and staff have been engaged in an array of funded public health related research projects and health and wellness programs (Attachment A). Through these efforts the University has established strategic partnerships with government organizations, foundations, healthcare providers, medical centers, and public health institutions; this has facilitated quality research efforts (Table A). NCA&T is in a good position to expand its research capacity in public health. It has an array of public health related academic disciplines, specialties, and degree programs; and many faculty and staff directly and indirectly engage in public health programs and research projects (Attachment B). The IPH's vision is to strengthen and expand the University's public health research capability by providing administrative support for grants, securing grants and other funding, allocating more faculty time to research, and expanding research facilities.

B. Other Campus Units Supporting IPH

Academic departments, divisions, centers, institutes, and programs with well-equipped laboratories provide the foundation for the PHRC. These entities all include interdisciplinary researchers with proven track records in their respective areas of expertise (Table B). These researchers have been conducting research and development across an array of areas related to public health during the past several years (Table C). While each research entity and group is productive in its own right, there will be an opportunity for even greater contributions to public health when their respective strengths are joined in a more synergistic effort. By opting to work collaboratively under the PHRC, participating researchers will achieve a greater sharing of expertise, program innovation, academic program development, and external funding acquisition.

C. On-Campus Support for the PHRC

1. Technical Expertise. Faculty associates in this cluster have a wide spectrum of diversified and complimentary expertise ranging from biochemistry, bioinformatics, biological sciences, biotechnology, chemical engineering, cultural change, environmental sciences, epidemiology, food and nutrition sciences, genetic engineering, genomics, health disparities, human development and learning, human-machine systems, industrial hygiene, life sciences, microarray technologies, molecular biology, nursing, occupational health and safety, and waste management just to name a few. The discipline and expertise of the departments and divisions are highlighted in Table B.

2. Research Projects and Health Programs. The cluster's mission is to advance knowledge, policy, practice, and education in public health through research, methods, and program evaluation. The role of the cluster is to provide a forum for diverse viewpoints on major health issues, to develop models of practice in public health, and to increase public and professional awareness and understanding of public health problems and solutions. To these ends, the faculty and staff at NCA&T have been and continue to be engaged in an array of public health research projects and health and wellness programs (Table C).

3. Programs Supportive of Public Health

- Interdisciplinary Ph.D. Program in Energy and Environment. The program prepares men and women for highly specialized positions in research and consulting in industrial, governmental and service organizations, and for faculty and research positions in colleges and universities. It is a unique program that prepares students to investigate rapidly changing environmental conditions. (Environmental conditions will continue to change rapidly because of societal expectations and actions.) The new

program will certainly improve and enhance the level of research activity in energy and environmental disciplines.

- Interdisciplinary Ph.D. Programs in Leadership Studies. An interdisciplinary approach to the study of leadership. Preparing tomorrow's leaders. The program is designed for persons who desire positions of leadership in agricultural, business, industry, science, engineering, education, technology, the military and medical fields, and who are interested and committed to conducting research in the field of leadership.

- Occupational Health and Safety Program. The mission is to prepare men and women for entry into the fields of health and safety. It is the aim of our graduates to improve the health and safety of the work by maintaining standards, providing training and education and encouraging improvement in workplace safety and health. Focus is occupational safety and health, hazardous materials handling, fire safety, and industrial hygiene.

4. Strategic Research Collaborations and Partnerships. Collaborative research partnerships exist with scientists in federal, state, industrial, and community organizations. Faculty members engaged in research have very active collaborations and partnerships with various universities, research institutions, and industries on a local, state and national level (Table A).

5. Outreach. Research and educational outreach includes national and global activities. Faculty researchers have organized and sponsored international conferences, symposia, technical sessions, major government interdisciplinary workshops, journals, etc.

(Please list examples)

6. Interdisciplinary Experience. Researchers in the PHRC have an established track record of distinctive, visionary and interdisciplinary activities.

(Please list examples)

7. Research Centers and Institutes. The PHRC will build upon several existing Centers and Institutes that study and coordinate research on a variety of topics that are related to public health. NCA&T has existing Centers and Institutes that are supportive of public health related programs and research projects. Those Center and Institutes are:

- Center for Health Disparities. The Center for Health Disparities is a collaborative effort by North Carolina A&T State University's School of Nursing and Johns Hopkins' School of Nursing to address health disparities among minority populations.

- Institute for Human-Machine Studies. The overall mission of the Center is to understand the nature of human performance while interacting with complex technology-driven systems. It specific focus is on cognitive engineering and human-system interface sciences, aviation and transportation human factors, information and communication technology integration, and healthcare and manufacturing applications.

- Institute for Public Health. The Institute for Public Health has as its mission to improve the public's health and address health disparities through interdisciplinary discovery, learning and engagement. The IPH seeks to focus on environmental, social, educational and economic factors that impact health in the underserved and underrepresented populations.

- North Carolina Agro-medicine Institute. The North Carolina Agro-medicine Institute is a scientifically based organization with a focus on environmental and occupational health and safety issues of agricultural, forestry, and fisheries producers, workers and their families. Its mission is to promote the health and safety of agricultural, forestry, and fisheries communities through research, education, and outreach. The institute will support doctoral students who are interested in occupational health, safety, and education issues. The Agro-medicine Institute is a collaborative relationship between NC A&T State University, East Carolina University and North Carolina State University.

- Waste Management Institute. The Waste Management Institute (WMI) is an interdisciplinary academic support unit that provides research and service functions. Its mission is to enhance awareness and understanding of environmental and waste management issues. The WMI administers an undergraduate and advanced certificate program. The WMI coordinates fellowships, internships, conferences, and workshops conducted at various locations on and off campus.

8. Physical Facilities. North Carolina A&T State University has existing physical facilities that support public health programs and related research projects. Additionally, the capacity to conduct public health related research is being enhanced and expanded via renovation and building projects. The physical facilities include:

- New Science Building. A 71, 000 square foot science building is being constructed to house the Departments of Chemistry and Psychology. The chemistry research facility includes biochemistry and biotechnology laboratories.

- Teaching and Research Laboratories. There are laboratories within the various academic departments across the University campus equipped to be supportive of public health related research. Below is a summary listing:
  - Analytical Chemistry Research
  - Analytical Service
  - Biochemistry
  - Bioinformatics and Microarray
  - Biological Sciences
  - Biotechnology
  - Chemistry
  - Environmental
  - Food Chemistry
  - Food Microbiology
  - Food Safety and Nutrition
  - Electronic Microscopy
  - Environmental Analysis
  - Genomics
  - Molecular Biology
  - Microbiology and Immunology
  - Physiology
  - Physical and Analytical Chemistry
  - Quality Control
  - Spectroscopy Laboratory
  - Toxicology Laboratory

VII. Summary / Closing Statement

Facilitating research in public health on the campus of NCA&T will significantly enhance capacity and support for and visibility of interdisciplinary research. The collective efforts of faculty and staff within various departments, divisions, centers and institutes across the University campus will result in synergistic research. Most importantly, the PHRC will make significant contributions through its research projects and health and wellness programs. Its programs will contribute to the elimination of health disparities for underserved populations and promote a healthier environment.

Continued improvement of the public's health in the 21st century needs innovations that come from a systems focus. This requires a population-based approach to health practice, health research, and policy. Participatory research that is based in the community will allow the University to educate its local and global communities through research participation, public forums, and database access. It is clear that future public health actions must have a well-educated cadre of professionals who are interdisciplinarily and globally trained to understand the major factors that most significantly affect the public's health. NCA&T is well poised to make a significant impact on public health issues by reducing the gap in health disparities and by increasing and diversifying the work force in public health.

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Table A
Public Health Related Research Project and Health and Wellness Program Alliances, Collaborations, Partnerships and Sponsors
North Carolina Agricultural and Technical State University

▪ Agro-medicine Alliance ▪ Association of American Colleges and Universities ▪ Banner Pharmacaps Inc. (BPI) ▪ Bennett College ▪ Center for family Research ▪ Centers for Medicare and Medicaid ▪ Center on Health Disparities Research (CHDR) ▪ Community Health Improvement Fund (CHIF) ▪ Duke University ▪ East Carolina University ▪ Eastern Area Health Education Center ▪ Forsyth Medical Center ▪ Guilford County Schools ▪ Guilford County United Way ▪ Johns Hopkins University School of Nursing ▪ Moses Cone-Wesley Long Community Health Foundation ▪ Moses H. Cone Health System ▪ National Institute of Health (NIH) ▪ National Institute of Nursing Research (NINR) ▪ National Kidney Foundation of North Carolina ▪ National Science Foundation ▪ National Youth Sports Program Corporation ▪ North Carolina Agro-medicine Institute ▪ North Carolina Biotechnology Center ▪ North Carolina Central University	▪ North Carolina Cooperative Extension Services ▪ North Carolina Department of Agriculture ▪ North Carolina Department of Health and Human Services ▪ North Carolina Division of Public Health ▪ North Carolina Health Careers Access Program (NC HCAP) ▪ North Carolina Health and Wellness Trust Fund Commission ▪ North Carolina Institute of Minority Economic Development (NCIMED) ▪ North Carolina State University ▪ Office of Minority Health and Health Disparity ▪ Pennsylvania College of Optometry ▪ Prevention Program for Rural African American Families Center ▪ Southern Coastal Agro-medicine Center (SCAC) - East Carolina ▪ Strong African American Families Program (SAAF) ▪ Tennessee State University ▪ Texas A&M ▪ United States Department of Agriculture ▪ University of Georgia ▪ University of North Carolina – Chapel Hill ▪ University of North Carolina – Greensboro

Table B
Faculty Public Health Related Areas of Technical Expertise
North Carolina Agricultural and Technical State University

▪ Air Quality ▪ Analytical Chemistry ▪ Biochemistry ▪ Bioinformatics ▪ Biological Sciences ▪ Biotechnology ▪ Business Administration and Management ▪ Carcinogenesis ▪ Cellular and Molecular ▪ Chemical Engineering ▪ Computational Chemistry ▪ Computer Science ▪ Cultural Change ▪ Decision Making and Problem ▪ Electronics ▪ Environmental Sciences ▪ Epidemiology ▪ Food Microbiology and Safety ▪ Food and Nutrition Sciences ▪ Gene expression ▪ Genetics ▪ Genomics ▪ Health Disparities ▪ Health and Physical Education ▪ Healthcare Quality Management ▪ Healthcare Systems Engineering ▪ Human-Machine Systems ▪ Human Development and Learning ▪ Human Resource Management	▪ Immunology ▪ Industrial Engineering ▪ Industrial Hygiene ▪ Information Systems Management ▪ Inorganic Chemistry ▪ Leadership Development ▪ Life sciences ▪ Marketing ▪ Medical Diagnostics ▪ Medical Judgment and Decision making ▪ Microarray Technologies ▪ Microbiology ▪ Molecular Biology ▪ Nursing ▪ Physiology ▪ Occupational Health and Safety ▪ Organic Chemistry ▪ Public Health ▪ Public Health Market Research ▪ Physical Chemistry ▪ Physical Fitness ▪ Rehabilitation Counseling ▪ Research Methods ▪ Social Sciences ▪ Statistical Design and Analysis ▪ Toxicology ▪ Water Quality ▪ Waste Management

Table C
Public Health Related Research Projects and Health and Wellness Programs Areas of Focus
North Carolina Agricultural and Technical State University

▪ Access to medical care ▪ Adult health ▪ Aging ▪ Air quality ▪ Alzheimer disease ▪ Assessment of health and safety ▪ Behavioral health ▪ Blood pressure management ▪ Cancer ▪ Cardiovascular disease ▪ Cultural impacts ▪ Clinical diagnostics and surveillance ▪ Diabetes ▪ Environmental auditing ▪ Environmental exposures and hazards ▪ Environmental issues ▪ Epidemiological evaluations ▪ Food microbiology and safety ▪ Food and nutrition ▪ Fitness management ▪ Health careers ▪ Health disparities ▪ Health and wellness promotions ▪ Healthcare problem management ▪ Healthcare informatics ▪ Healthcare systems engineering ▪ Human-Machine systems ▪ Human development and performance	▪ Hypertension ▪ Industrial hygiene ▪ Infant mortality ▪ Information dissemination ▪ Managerial leadership ▪ Medical systems management ▪ Metabolic risk factors ▪ Mortality research ▪ Obesity programs ▪ Occupational health and safety ▪ Organ and tissue donation ▪ Pharmaceutical studies ▪ Physical activities ▪ Preventive health care ▪ Preventive mental health ▪ Public health information marketing ▪ Reduction of health related risk factors ▪ Smoking prevention ▪ Social sciences and services ▪ Speech / Language and hearing ▪ STD / HIV/ AIDS counseling, prevention, and research ▪ Strokes ▪ Teen pregnancy ▪ Violence ▪ Water quality ▪ Women health and diseases

Attachment A
Sponsored Public Health Related Research Projects and Health and Wellness Programs,
2003 – 2006

Projector Director(s)	*Project Title*	*Sponsor*	*Project Start – End Dates*
Perry Mack	Health Careers Opportunity Program	University of North Carolina – Chapel Hill	9/1/00 – 8/31/04
Perry Mack	University of North Carolina at Chapel Hill Health Careers Opportunity Program (UNC-HCOP)	University of North Carolina – Chapel Hill	9/1/00 – 8/31/05
Von Whitakker	Center On Health Disparity In Underserved Populations	National Institute of Health and National Institute of Nursing Research	9/30/02 – 6/30/07
Lorna Harris	Evaluation Of The Senior Prescription Drug Assistance Program In Minority Communities	North Carolina Health and Wellness Trust Fund Commission	2/1/03 – 1/31/04
Lorna Harris	N.C. A&T State University Project Commit To Prevent: A Partnership With NC HIV/STD Prevention and Care Section	HHS – North Carolina Dept of Health and Human Services	6/1/03 – 7/31/04
Beverly Wallace	Upward Bound Summer Food Service Program	HHS-North Carolina Dept of Health and Human Services	6/1/03 – 5/31/05
Patricia Shelton	Development Of Clinical Sites At The Free Clinic Of Reidsville and Vicinity and Ray Warren Homes	Moses H. Cone Health System (AHEC)	8/1/03 – 6/30/04
Mohamed Ahmedna	Further Agricultural Health and Safety Through Clinical Surveillance, Information Dissemination, and Disaster Monitoring	North Carolina State University	8/1/03 – 7/31/04
Mary Mafuyai-Ekanem Shelia Sutton	Food Safety Practices and Risk Reduction Education For Rural Residents (Women in Agriculture Collaboration Project With Tennessee State University)	Tennessee State University	9/1/03 – 8/31/06
Mohamed Ahmedna Shirley Mcneill	Analytical Assistance In Drug Kinetic Study	Banner Pharmacaps Inc. (BPI)	9/10/03 – 3/21/04
Willie Willis Ipek Goktepe Mohammed Ibrahim	Food Safety Outreach Training For North Carolina's Small Meat And Poultry Producers	US Dept of Agriculture / CSREES	9/26/03 – 9/25/04
Perry Mack	Model State Supported AHEC Program: North Carolina Access Recruitment, And Completion (NC-ARC) Initiative In Allied Health Sciences	University of North Carolina – Chapel Hill	9/30/03 – 9/29/04
Lorna Harris	Promoting Health In The African American Community (PHAAC): Implementing Relaxation Techniques To Reduce Cardio-Vascular Risk Factors	HHS – Centers For Medicare and Medicaid	9/30/03 – 9/29/05
Wilda Wade	"Project Eat Right-Add To Life(PEARL)"	North Carolina Dept of Health and Human Services	10/1/03 – 9/30/04
Lelia Vickers Adrienne Witherspoon	On The Ground Cessation and Smoking Prevention Project	North Carolina Institute on Minority Economic Development	1/1/04 – 12/31/05

Projector Director(s)	*Project Title*	*Sponsor*	*Project Start – End Dates*
Mohammed Ibrahim Mohamed Ahmedna	Assessment Of Minority Health And Safety In Selected Counties In North Carolina	Southern Coastal Agromedicine Center – East Carolina	2/1/04 – 9/29/04
Trent Larson	Middle College Youth HIV/AIDS Education Project	Association of American Colleges and Universities	1/7/04 – 3/31/04
Ipek Goktepe Mohamed Ahmedna	Farm Injuries and Illness Project: Assessing Pesticides and Other Environmental Hazards (Assessment Of Triazole Exposure Among Farm Workers In North Carolina)	North Carolina State University	7/1/04 – 6/30/06
Lorna Harris	Community and Individual Interventions To Increase Organ and Tissue Donation Intent Among African Americans	National Kidney Foundation of North Carolina	7/30/04 – 7/29/05
Gladys Shelton	Prevention Programs For Rural African American Families	University of Georgia	8/1/04 – 7/31/05
Lorna Harris	Community Focused Initiative To Reduce The Burden Of Stroke	Forsyth Medical Center, DHHS, PHS	8/1/04 – 9/30/05
Richard Watkins Tiffany Fuller	The Extended NYSP Girls Sports Clinic	National Youth Sports Corporation	8/20/04 – 1/29/05
Goldie Byrd	Basic Immune Mechanisms	University of North Carolina – Chapel Hill	9/1/04 – 8/31/05
Perry Mack	Pennsylvania College of Optometry, HCOP	Pennsylvania College of Optometry	9/1/04 – 8/31/05
Diana Melton	Exercise Dose and Metabolic Risk Factors In Young Women	University of North Carolina – Greensboro	9/1/04 – 8/31/05
Benjamin Gray Alton Thompson Terrence Thomas	Understanding the Underlying Factors That determine A Health Status In The Black Belt	United States Dept of Agriculture / CREES	9/1/04 – 8/31/07
G. B. Reddy	The Southern Region Water Quality Coordination Project	Texas A&M	9/15/04 – 9/15/05
Perry Mack	North Carolina Access, Recruitment and Completion(NC-ARC) Initiative In Allied Health Sciences	University of North Carolina – Chapel Hill	9/30/04 – 8/31/05
Alton Thompson Mohammed Ibrahim Mohamed Ahmedna	Assessment Of Health and Safety Of Black Farmers In The Southern Coastal Region: Minority Farmers Survey	East Carolina University	9/30/04 – 9/29/06
Lorna Harris	North Carolina Agricultural & Technical State University Project Commit To Prevent A Partnership With HIV/STD Prevention and Care Branch	North Carolina Division of Public Health	1/1/05 – 12/12/05
Tiffany Fuller Brenda Swearingin	Dance Action A Physical Activity, Health And Wellness Project For Middle School Girls	United Way / Community Health Improvement Fund (CHIF), MCWL Community Health Foundation	5/1/05 – 4/30/06
Sharon Criner	"Carolina Community Network (CCN)"	University of North Carolina – Chapel Hill	5/6/05 – 4/30/06

Projector Director(s)	*Project Title*	*Sponsor*	*Project Start – End Dates*
Patricia Price-Lea	Summer Obesity Program	Moses Cone-Wesley Long Community Health Foundation	6/1/05 – 8/31/05
Mohamed Ahmedna	Exposure To Pharmaceuticals and Personal Care Products In Rural Agricultural Settings	University of North Carolina – North Carolina State University	7/1/05 – 5/30/06
Mohamed Ahmedna Lizette Sanchez-Lugo Brenda Swearingin	A Baseline Data On Obesity – Related Life Styles Of African American College Students	United States Dept of Agriculture / CSREES	7/15/05 – 7/14/06

Attachment B
Interdisciplinary Public Health Related Disciplines, Specialties and programs
North Carolina Agricultural and Technical State University

I. College of Arts and Sciences
Dr. Michael A. Plater, Dean **

Department	Discipline Specialty / Degree Program	Faculty / Staff
Biology Department Dr. Goldie S. Byrd, Chair **	Discipline: Biology; Biological Sciences; Life Sciences Genetic Susceptibility of Alzheimer disease (Dr. Byrd); Cellular and Molecular Carcinogenesis, Prevention (Dr. Holmes-McNary); Immunology of Diabetes and Transplantation (Dr. Gordon); Plant-Pathogen Interactions & Rice Genomics (Dr. Smith); *Karenia brevis* and Gram negative Bacterial Interactions (Dr. Foushee); Genome and Gene Family Evolution (Dr. Snell); Molecular Characterization of Poly Ethylene Glycol Utilizing Bacterial Species (Dr. Jordan); Stress Physiology (Dr. Goliszek); Microbial Physiology and Genetics (Dr. Whittaker); Evolutionary Theory of Human Diversity (Dr. Graves); Environmental Field Biology and Animal Phylogenetics , Geospatial Technologies and Mobile GPS, Use of Multiple Representations in the Teaching and Learning of Science (Dr. Hagevik); Taxonomy and Distribution of Freshwater Red Algae and Demographics of Rare Plant Populations (Dr. Coomans); Molecular Control of Photosynthesis (Goins); Statistical Design, Modeling and Analysis of Experimental and Observational Data, Statistical Analysis of Gene Expression in Microarray Technology, Educational Research Methods (Dr. Kelkar). Degree: Biology (BS, MS)	▪ Dr. Roy Coomans – Associate Professor ** ▪ Dr. Doretha Foushee- Associate Professor ** ▪ Dr. Gregory Goins - Visiting Assistant Professor ** ▪ Dr. Andrew Goliszek – Associate Professor ** ▪ Dr. Ethel J. Gordon, Associate Professor ** ▪ Dr. Joseph Graves – Professor ** ▪ Dr. Rita Hagevik – Assistant Professor ** ▪ Dr. Minnie Holmes-McNary –Associate Professor ** ▪ Dr. Thomas Jordan - Associate Professor ** ▪ Dr. Vinaya Kelkar – Assistant Professor ** ▪ Dr. Mary A. Smith, Associate Professor ** ▪ Dr. Elizabeth Snell, Adjunct Professor ** ▪ Dr. Joseph Whittaker – Associate Professor **

Department	Discipline Specialty / Degree Program	Faculty / Staff
Chemistry Department Dr. Claude N. Lamb, Interim Chair	Discipline: Analytical Chemistry; Biochemistry; Computational Chemistry; Inorganic Chemistry; Organic Chemistry; Physical Chemistry. Focus on environmental science research (Dr. Kumar); Looking at molecules that could prevent cancer and has a collaboration with Wake Forest University (Dr. Franks); Biochemistry research related public health (Dr. Kanipes) Degree: Chemistry (BS, MS)	▪ Dr. Marion A. Franks, Assistant Professor ** ▪ Dr. Margaret I. Kanipes, Associate Professor ** ▪ Dr. Jothi V. Kumar, Professor **

Department	Discipline Specialty / Degree Program	Faculty / Staff
Psychology Department Dr. George S. Robinson, Jr., Chair **	Discipline: Psychology Animal / experimental psychology looking at alternative methods of lowing blood pressure (Dr. Schumacher); HIV / AIDS counseling and prevention (Drs. Keyes and Edwards); Preventive mental health (Dr. Edwards); women's health (Dr. Sharma); Alzheimer and lead exposure and its impact (Dr. Alizahumu) Degree: Psychology (BA)	▪ Dr. Robinson Alizahumu ** ▪ Dr. Phyllis Ford-Booker, Associate Professor ** ▪ Dr. Susie Ozetta Edwards, Assistant Professor ** ▪ Dr. Michelle L. Linster-Glenn, Visiting Assistant Professor ▪ Dr. Alvin L. Keyes, Associate Professor ** ▪ Dr. Susan J. Schumacher, Associate Professor ** ▪ Dr. Sarla S. Sharma, Professor **

Department	Division	Discipline Specialty / Degree Program	Faculty / Staff
Sociology and Social Work Department Dr. Robert Davis, Interim Chair **	Undergraduate Social Work Program Dr. Elizabeth D. Watson, BSW Program Director and Associate Professor ** Master Social Work Program Dr Arnold Barnes, Director and Assistant Professor Social Program Coordinator Dr. Phillip Carey, Professor	Discipline: Social Work; Social Sciences; Sociology; Liberal Arts and Sciences; Liberal Studies; General Studies and Humanities; Public Administration; Social Service Professions; Focus on Cultural Change and Social Development; Mortality and Violent research (Dr. Davis); Infant Mortality (Dr. Barnes); Alzheimer Disease (Dr. Moore) Degree: Liberal Studies (BA); Social Work (BSW, MSW)	▪ Dr. Glenna L. Barnes, Assistant Professor ** ▪ Dr. Ann B. Mayfield-Clark, Associate Professor ** ▪ Dr. Wayne R. Moore, Associate Professor **

NCAT Speech / Language and Hearing Clinic (Proposal)

The vision is that the NCA&T Speech and Hearing Clinic will strive to educate university students by providing quality hearing health care to underserved residents of the Piedmont Triad. The objective is to become a self-supportive clinic as the client base expands, and to increase visibility of the undergraduate Speech/Language Pathology and Audiology programs at university, local, state and national levels. The mission is to: enhance quality of life of residents in East Greensboro through state-of-the-art hearing health programs of prevention, evaluation, rehabilitation and research; and, prepare NCA&T students for graduate work in Speech-Language Pathology and Audiology.
Dr. Ann B. Mayfield-Clark
Program Coordinator for Speech Language Pathology and Audiology

II. College of Engineering
Dr. Joseph Monroe, Dean

Department	Division	Discipline Specialty / Degree Program	Faculty / Staff
Mechanical and Chemical Engineering Department Dr. Shih-Liang Wang, Interim Chair	Chemical Engineering Dr. Shih-Liang Wang, Director and Professor	Discipline: Chemical Engineering Degree: Chemical Engineering (BS, MS)	▪ Dr. Shamsuddin Ilias, Professor **

Department	Discipline Specialty / Degree Program	Faculty / Staff
Industrial and System Engineering Department Dr. Eui H. Park, Chair **	Discipline: Industrial Engineering Program Options include: Manufacturing Systems Engineering; Human-Machine Systems Engineering; Management Systems Engineering, Production Systems Engineering, and, Operations Research and Systems Analysis. Research interest in public health engineering includes the following areas: Medical Judgment and Decision Making; Medical and Nursing Errors; Medical and Nursing Diagnostics; Health Informatics; Cognitive and Neural Health Models; Healthcare Ergonomics; Tele-healthcare; Gerontology Technology; Healthcare Quality Management; Scheduling; Materials Management; and, Healthcare Enterprise Simulation. Degree: Industrial Engineering (NS, MS, PhD)	▪ Dr. Xiaochum Jiang, Assistant Professor ** ▪ Dr. Daniel N. Mountjoy, Assistant Professor ** ▪ Dr. Celestine A. Ntuen, Professor ** ▪ Dr. Younho Seong, Assistant Professor ** ▪ Dr. Paul Stanfield, Assistant Professor ** ▪ Dr. Silvanus J. Udoka, Associate Professor **

Center for Human-Machine Studies

The overall mission of the Center is to understand the nature of human performance while interacting with complex technology-driven systems. It's specific focus is on cognitive engineering and human-system interface sciences, aviation and transportation human factors, information and communication technology integration, and healthcare and manufacturing applications.

Healthcare Systems Engineering (Proposed)

A multi-disciplinary engineering curriculum designed to prepare scientists and engineers to be Healthcare System Managers and highly qualified people who can provide answers to the society's healthcare problems. The program objectives are to: increase the human resource availability in healthcare systems engineering; increase the pool of minorities and women in healthcare systems engineering; and, provide solutions to healthcare engineering problems in local, state, national and world communities.
Dr. Celestine A. Ntuen
Director of the Center for Human-Machine Studies

III. School of Agriculture and Environmental Sciences

Dr. Alton Thompson, Dean **

Department	Discipline Specialty / Degree Program	Faculty / Staff
Agricultural Research Office	Investigation of behavioral and technical aspects of residential energy consumption, as well as the study of adequate and affordable housing for groups with special needs.	▪ Dr. Carolyn S. Turner, Associate Dean for Research **

Department	Discipline Specialty / Degree Program	Faculty / Staff
Animal Science Department Dr. Ralph C. Noble, Chair	Discipline: Biotechnology: Agricultural Genetics; Genomic Diversity Developmental toxicology and biotechnology (Dr. Worku); Biotechnology and genomics (Dr. Branch); Food microbiology and food safety (Dr. Willis); microbiologist with a focus upon E. coli (Dr. Allen); during research in conjunction with Biology Dept (Dr. Hanner) Degree: Agricultural Science (BS); Laboratory Animal Science (BS); Animal Health Sciences (MS)	▪ Dr. John W. Allen, Research Coordinator Veterinary Medicine ** ▪ Dr. Stacy Branch, Professor ** ▪ Dr. Tracy L. Hanner, Director Animal Lab ** ▪ Dr. Mulumebet Worku, Associate Professor ** ▪ Dr. Willie L. Willis, Professor **

Department	Discipline Specialty / Degree Program	Faculty / Staff
(Family and Consumer Sciences Department) Dr. Gladys G. Shelton, Chair (Formerly: Human Environment and Family Sciences Dept)	Discipline: Child Development; Family and Consumer Sciences Education; Fashion Merchandising and Design; Foods, Nutrition, and Wellness Studies / Sciences; Home Economics; Agromedicine, Nutrition and Food Safety Program (Dr. Ahmedna); The "Strong African American Family Progress" program. Degree: Family and Consumer Sciences (BS); Child Development Early Education and Family Studies (BS); Food and Nutrition Sciences (BS, MS)	▪ Dr. Mohammed S. Ahmedna, Associate Professor** ▪ Dr. Lizette Sanchez-Lugo, Assistant Professor ** ▪ Ms. Patricia A. Lynch, Adjunct Assistant Professor ** ▪ Dr. Valerie J. McMillian, Academic Counselor / Lecturer in the Center for Student Success ** ▪ Dr. Wilda F. Wade, Coordinator of Food and Nutrition Spec – Cooperative Extension Programs ** ▪ Ms. Meeshay Williams Wheeler, Adjunct Assistant Professor **

Department	Discipline Specialty / Degree Program	Faculty / Staff
Natural Resources and Environmental Design Dept. Dr. G. B. Reddy, Chair	Discipline: Agricultural / Biological Engineering; Bioengineering; Biotechnology; Analyzing and Solving the Scientific and Social Complexities of Natural Resource Management; Soil and Water Conservation Studies; Water quality, Soil Utilization and Waste Management; Ambient Air Quality; Environmental Auditing; Ground Water Monitoring; Landfill Assessment and Site Remediation Degree: Bioenvironmental Engineering (BS)	▪ Dr. Omon Isikhuemhen Assistant Professor / Biotechnologist ** ▪ Dr. Abolghasem Shahbazi, Associate Professor; Program Coordinator **

IV. School of Business and Economics

Dr. Quiester Craig, Dean

Department	Discipline Specialty / Degree Program	Faculty / Staff
Business Administration Department Dr. Edna Regins, Chair **	Discipline: Business Administration and Management; Decision Making and Problem Solving; Management Information Systems; Human Resource Management; Finance; Operations Management; Marketing; Public Health Market Research Experience (Dr. Regins) Degree: Management (BS, MSM)	

Department	Discipline Specialty / Degree Program	Faculty / Staff
Master of Science in Management Program Dr. Roger J. Gagnon, Director	Discipline: Human Resource Management, Management Information System; Transportation / Supply Chain Management Degree: Master of Science in Management (MSM)	

V. School of Education

Dr. Lelia Vickers, Dean **

Department	Discipline Specialty / Degree Program	Faculty / Staff
Curriculum and Instruction Department Dr. Dorothy D. Leflore, Chair **	Discipline: Provides the professional studies component for the preparation of effective teachers and school personnel. Teacher education preparation. Programs in the areas of elementary education and instructional technology. Degree: Elementary Education; and Special Education (BS) Elementary Education: and Instructional Technology (MS)	

Department	Discipline Specialty / Degree Program	Faculty / Staff
Human Development and Services Department Dr. Wyatt D. Kirk, Chair	Discipline: Prepare individuals for professional roles in Adult Education, Counseling and School Administration. Philosophical, theoretical, and methodological foundations for adult educational and counseling practices. Human development and learning. Degree: Adult Education (MS); Master of School Administration (MS); Human Resources – Agency Counseling (MS); Human Resources – Business and Industry (MS); Counselor Education (MS); Rehabilitation Counseling (MS)	▪ Dr. Tammy T. Webb, Adjunct Assistant Professor ** ▪ Dr. Tyra N. Whittaker, Assistant Professor **

Department	Discipline Specialty / Degree Program	Faculty / Staff
Human Performance and Leisure Studies Department Dr. Deborah J. Callaway, Chair	Discipline: Physical Education Teaching and Coaching; Sports Science and Fitness Management; Park, Recreation, Leisure, and Fitness Studies Degree: Health and Physical Education (BS, MS); Sport Science and Fitness Management (BS); and Recreation Administration (BS)	▪ Dr. Phoebe B. Ajibade, Assistant Professor ** ▪ Dr. Teresa Dail, Assistant Professor ** ▪ Dr. Diana I. Melton, Assistant Professor ** ▪ Dr. Jerono Rotich, Assistant Professor ** ▪ Dr. Brenda L. Swearingin, Assistant Professor **

School of Education – Mrs. Adrienne Y. Witherspoon, Director of Funded Initiatives **

VI. School of Graduate Studies

Dr. Kenneth H. Murray, Interim Dean **

Academic Program	Discipline Specialty / Degree Program	Faculty / Staff
Energy and Environmental Studies PhD Program – Dr. Keith Schimmel, Director **	Discipline: Innovative core courses that integrating the technical, economic, legal, and ethical considerations involved in solving energy and environmental problems. The program is designed to prepare interdisciplinary leaders in global energy and environmental issues so that they may advance sustainable global economic growth. Degree: Energy and Environmental Studies (PhD)	

Academic Program	Discipline Specialty / Degree Program	Faculty / Staff
Leadership Studies – Dr. Alexander Ervin, Interim Director **	Discipline: An interdisciplinary approach to the study of leadership. Preparing tomorrow's leaders. The program is designed for persons who desire positions of leadership in agricultural, business, industry, science, engineering, education, technology, the military and medical fields, and who are interested and committed to conducting research in the field of leadership. Degree: Leadership Studies (PhD)	

VII. School of Nursing

Dr. Patricia Price Lea, Dean **

Academic Program	Discipline Specialty / Degree Program	Faculty / Staff
Nursing	Discipline: Nursing; Registered Nurse Training; Adult Health Nursing; Women and Health Disease; Intimate Partner Abuse; Teen Pregnancy; Women's Health, Violence; Prostate Cancer Screening; Cultural and Religious Influence Upon Health Practice; Aging; Hypertension; Cardiovascular Disease; Infant Mortality; Working on a stroke research program in collaboration with Forsyth County Health Department (Ms. Robinson) Degree: Nursing (BSN) Notice of intent has been filed (6/22/05) to start an "Interdisciplinary Health and Wellness BS degree program. Program targeted at student interested in a health education and wellness career. Program designed to facilitate integration, applications, and evaluation of information regarding health education and health promotion theory.	▪ Ms. Cathy M. Badgett, Clinical Assistant ** ▪ Ms. Pamella Ivey Chavis, Adjunct Lecturer ** ▪ Dr. Carolyn Lundrigan, Associate Professor ** ▪ Ms. LeToya Marsh, Clinical Assistant Professor ** ▪ Dr. Linda C. McIntosh, Assistant Professor ** ▪ Ms. Schenita D. Randolph, Clinical Instructor ** ▪ Ms. Carol Robinson, Clinical Assistant Professor ** ▪ Dr. Patricia Shelton, Associate Professor ** ▪ Ms. Helen Spriggs, Clinical Assistant Professor ** ▪ Ms. Mary L. Wall, Clinical Instructor ** ▪ Dr. Von F. Whitaker, Research Associate Professor **

Partnership: North Carolina Agricultural & Technical State University (NCA&TSU), in partnership with the Johns Hopkins University School of Nursing (JHUSON), received a $2.3 Million, five-year grant from the National Institute of Nursing Research (NINR) to create a Center for Health Disparities Research. The effort is one of eight partnerships funded by the National Institute of Nursing Research (NINR) that joins research-intensive universities with primarily minority universities to conduct research on disparities in health care. The Center will promote the research of culturally sensitive nursing interventions aimed at improving care for underserved populations. Research will focus on the areas of health promotion, symptom management and domestic violence.

The Center's co-director and principal investigator at NCA&TSU is Dr. Von Best Whitaker PhD, RNC, FAAN, Assistant Dean and Associate Professor of Nursing. The primary investigator and center Director at Johns Hopkins is Dr. Fannie Gaston-Johansson, RN, FAAN, Professor and Director of international Affairs at Johns Hopkins University School of Nursing.

VIII. School of Technology

Dr. Ernest L. Walker, Interim Dean **

Department	Division	Discipline Specialty / Degree Program	Faculty / Staff
Construction Management and Occupational Safety and Health Dept. – Dr. David Dillon, Chair **	Occupational Safety and Health	Discipline: The mission is to prepare men and women for entry into the fields of health and safety. It is the aim of our graduates to improve the health and safety of the work by maintaining standards, providing training and education and encouraging improvement in workplace safety and health. Focus is occupational safety and health, hazardous materials handling, fire safety, and industrial hygiene. Degree: Occupational Safety and Health (BS, MSIT); Occupational Safety and Health Certificate Program	▪ Dr. Horlin Carter, Adjunct Professor ** ▪ Dr. Dilip T. Shah, Associate Professor ** ▪ Dr. Syrulwa L. Somah, Associate Professor **

IX. Student Affairs Division

Dr. Roselle L. Wilson, Interim Vice Chancellor

Student Health Services / Sebastian Health Center Mrs. Linda R. Wilson, Director **	The Sebastian Health Center's basic purpose is to provide NCA&T students and the University community with high quality and comprehensive health care. The Center seeks positive outcomes such as improved quality of life for all recipients of health services, and strives to promote the importance of preventive health care to students through various outreach programs. The Center coordinates and facilitates prevention strategies and programs focused upon sexually transmitted diseases (STD / HIV / AIDS) among the student population in partnership with the Guilford County Health Department. Also the Center administrates a "Project Commit To Prevent" which is a state funded STD/HIV prevention program. Program Coordinator / Contact person: Janet Lattimore, Public Health Educator **

X. University Studies Division

Dr. Joseph L. Graves, Jr., Dean **

The University Studies curriculum is the heart and soul of the university's academic mission to prepare students for careers in a dynamic, global, knowledge-based economy that demands life-long learning. In conjunction with its overall developments and advancements in the general education curriculum foundation, health disparity is an area of focus and expertise for the University Studies Division. Dr. Joseph L. Graves, Jr. Dean of University Studies will work collaboratively with the Institute for Public Health to fulfill it's mission regarding disparities research and programs.

XI. Waste Management Institute

Dr. Godfrey Uzochukwu, Director **

The Waste Management Institute (WMI) of North Carolina Agricultural & Technical State University is an interdisciplinary academic support unit with research and public service functions. The mission of the Institute is to: enhance awareness and understanding of waste problems and their management in our society; and, enhance instruction, research, and outreach which are needed to improve the quality of life and protect the environment. Global, national, and local concerns for environmental problems and waste management present both an opportunity and challenge for NCA&T to harness academic resources and capabilities for developing solutions.
Program: Certificate in Waste Management

** Individuals identified via their current direct or indirect involvements within and across the areas of Public Health; and, also individuals that have expressed an interest in helping to develop and implement the Institute for Public Health.