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AMIE



PLANT THE SEEDS OF GREATNESS

INVESTING
IN OUR FUTURE

WITH
HISTORICALLY BLACK
COLLEGES & UNIVERSITIES



Historically Black Colleges & Universities Defined

HBCU DEFINED

HBCUs are a source of accomplishment and great pride for the African American community as well as the entire nation. The Higher Education Act of 1965, as amended, defines an HBCU as: "... any historically black college or university that was established prior to 1964, whose principal mission was, and is, the education of black Americans, and that is accredited by a nationally recognized accrediting agency or association determined by the Secretary [of Education] to be a reliable authority as to the quality of training offered or is, according to such an agency or association, making reasonable progress toward accreditation." HBCUs offer all students, regardless of race, an opportunity to develop their skills and talents. These institutions train young people who go on to serve domestically and internationally in the professions as entrepreneurs and in the public and private sectors.

Historical Overview

In 1980, President Jimmy Carter signed Executive Order 12232, which established a federal program "... to overcome the effects of discriminatory treatment and to strengthen and expand the capacity of historically black colleges and universities to provide quality education."

In 1981, President Reagan, under Executive Order 12320, established the White House Initiative on Historically Black Colleges and Universities, which expanded the previous program and set into motion a government wide effort to strengthen our nation's HBCUs.

In 1989, President George Bush signed Executive Order 12677. This executive order established a Presidential Advisory Board on Historically Black Colleges and Universities to advise the president and the secretary of education on methods, programs, and strategies to strengthen these valued institutions.

In 1993, President William Jefferson Clinton signed Executive Order 12876. This executive order required a senior level executive in each agency have oversight in implementing the order, and that the Office of Management and Budget be involved in monitoring implementation of the order.

On Feb. 12, 2002, President George W. Bush signed Executive Order 13256. This executive order transferred the White House Initiative on Historically Black Colleges and Universities to the Office of the Secretary within the U.S. Department of Education. Previously, the White House Initiative was housed in the Department's Office of Postsecondary Education.

On February 26, 2010, President Barack Obama Signed Executive Order 13532, to advance the development of the Nation's full human potential and to advance equal opportunity in higher education, strengthen the capacity of historically black colleges and universities to provide the highest quality education, increase opportunities for these institutions to participate in and benefit from Federal programs, and ensure that our Nation has the highest proportion of college graduates in the world by the year 2020.

List of AMIE Universities & Colleges

1. Alabama A&M University
2. Florida A&M University
3. Hampton University
4. Howard University
5. Jackson State University
6. Morgan State University
7. Norfolk State University
8. North Carolina Agricultural and Technical State University
9. Prairie View A&M University
10. Southern University and A&M College
11. Tennessee State University
12. Tuskegee University
13. University of the District of Columbia
14. Virginia State University

ABOUT AMIE:

AMIE is an acronym for
 “Advancing Minorities’ Interest in Engineering.”

AMIE is a non-profit organization whose purpose is to expand corporate, government, and academic alliances to implement and support programs to attract, educate, graduate and place underrepresented minority students in engineering careers.

The outcome of an initiative by Abbott Laboratories in 1992, AMIE represents a coalition of industry and government agencies, and the ABET accredited Historically Black Colleges & Universities (HBCU) Schools of Engineering, who see a diversified workforce as a competitive advantage and an essential business strategy.

AMIE acts as...

- A catalyst that forges Industry-Government/Academia partnerships that support programs to advance minorities interest in engineering.
- A promoter and encourager to minority students to pursue engineering careers.
- A facilitator for the recruitment of minority students (coops, interns, graduates, etc.) at member organizations.
- An avenue for members to exchange “Best Practices” and solutions for the development of a diversified engineering workforce.
- An enabler for the creation of Engineering Research/Technology transfer agreements.

AMIE Value Proposition Statement:

“AMIE assures the STEM Pipeline has diverse and exceptional talent! For industrial and government businesses who seek diverse perspectives in their workforce, Advancing Minorities Interest in Engineering (AMIE) provides a coalition with direct access to almost a third of graduating minority engineers annually. Unlike working individually with each partner in three areas (university, industry and government), AMIE’s coalition provides a holistic opportunity to influence and access talent, educators, and businesses in promoting minority student pursuit of engineering and achieving improving diversity in the engineering workforce.”

- Historically Black Colleges and Universities (HBCU’s) represent 2.3% of all colleges and universities, 3% of the college population, and produces more than 25% of African American graduates;
- About one-third of African American graduates in science and engineering are also produced by HBCUs;
- One quarter of PhD recipients in Science & Engineering received their undergraduate from an HBCU;

AMIE

AMIE's VISION

AMIE is the premier organization that develops industry, government, and university partnerships to achieve diversity in the engineering workforce.

AMIE's MISSION

AMIE is a catalyst that forges Industry-Government /Academia partnerships that support programs to advance minorities interest in engineering

AMIE's VALUES

As a coalition of Industry, Government Agencies, and ABET accredited HBCU Engineering Schools, AMIE is committed to:

- Promoting and encouraging minority students to pursue engineering degrees;
- Facilitating the recruitment of HBCU engineering coops, interns, and graduates, to member organizations;
- Providing a forum for member organizations to exchange ideas on “Best Practices” and “Issues” related to developing a diverse engineering workforce; and
- Facilitating the forging of Engineering Research and Technology Transfer Partnership between the AMIE HBCU’s and the AMIE coalition non-academic members.

Alabama A&M University

- Engineering Technology & Physical Sciences -



INSTITUTION

Reflecting its heritage as a traditional 1890 land-grant institution, Alabama A&M University (AAMU) functions as a teaching, research, and public service institution, including extension. AAMU is a dynamic and progressive institution with a strong commitment to academic excellence. The serene, intimate campus is situated on "The Hill," only a short distance from downtown Huntsville, the site of the school's founding. Alabama A&M University has four colleges with 41 Baccalaureate, 23 Master's, 1 EdS and 4 doctoral degrees offered.

COLLEGE/SCHOOL OVERVIEW

The College of Engineering, Technology, and Physical Sciences is organized into four departments, each headed by a department chair: (1) Mechanical and Civil Engineering, (2) Electrical Engineering and Computer Science, (3) Technology, and (4) Physics, Chemistry and Math. The BS degree in Computer Science program is accredited by the Computing Accreditation Commission of ABET, and the BS degrees in Civil Engineering, Electrical Engineering, and Mechanical Engineering programs are accredited by the Engineering Accreditation Commission of ABET. In collaboration with the College of Education, the College of Engineering, Technology and Physical Sciences offers a variety of certified and non-certified teaching programs and the undergraduate and graduate levels.

The College actively collaborates with government and industry partners in the vibrant Huntsville research ecosystem.

ACADEMIC PROGRAMS

Bachelor of Science

- Electrical Engineering
- Mechanical Engineering
- Civil Engineering
- Computer Science
- Physics
- Mathematics
- Chemistry
- Construction Management

Graduate Degrees

- Master of Engineering (Material Engineering and Systems Engineering)
- Master of Science in Computer Science
- Master of Science in Applied Physics
- PhD in Applied Physics

RESEARCH INITIATIVES AND CAPABILITIES

- Materials Science and Engineering, IC fabrication
- Crystal growth, large and small bandgap and piezoelectric materials
- Image and Signal Processing, real-time embedded systems
- Cyber Security, neural networks, modeling and simulation in biometrics
- Computational electromagnetics, computational fluid dynamics, finite element analysis
- Advanced Manufacturing
- Unmanned Aircraft Systems, robotics
- Intelligent manufacturing systems and advanced robotics
- Mach-5 wind tunnel, Rating 1000 cleanroom, three particle accelerators

POINT OF CONTACT

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Florida A&M University

- Florida Agricultural and Mechanical University -

INSTITUTION

Florida Agricultural and Mechanical University was founded as the State Normal College for Colored Students, and on October 3, 1887, it began classes with fifteen students and two instructors. Today, FAMU, as it has become affectionately known, is the premiere school among historically black colleges and universities. Prominently located on the highest hill in Florida's capital city of Tallahassee, Florida A&M University remains the only historically black university in the eleven member State University System of Florida.

COLLEGE/SCHOOL OVERVIEW

In its brief but impressive history, the College of Engineering has become one of the premier learning centers of its kind. The College offers comprehensive academic programs at all levels and works to continually evaluate, expand, and improve programs to ensure that engineering students are prepared for the demands of an innovative global society. The College is a leading academic institution with excellent records of achievement in research and public service. The College has attracted an outstanding faculty from all over the world. Having first-class programs with world-class facilities such as the National High Magnetic Field Laboratory, Materials Research Building, the Center for Advanced Power Systems, and the Aero-propulsion Mechatronics and Energy Center, and faculty and staff who have a passion to educate, the College produces well-trained students with excellent entrepreneurial and job skills.

ACADEMIC PROGRAMS

Bachelor of Science

- Chemical Engineering
- Civil Engineering
- Electrical Engineering
- Computer Engineering
- Industrial Engineering
- Mechanical Engineering

Graduate Degrees

- Masters and Doctorate in Chemical Engineering
- Masters and Doctorate in Biomedical Engineering
- Masters and Doctorate in Civil Engineering
- Masters of Engineering in Civil Engineering
- Masters and Doctorate in Electrical Engineering
- Masters and Doctorate in Industrial Engineering
- Masters and Doctorate in Mechanical Engineering

RESEARCH INITIATIVES AND CAPABILITIES

- Polymers, materials, nanomaterials and nanotechnology
- Renewable, advanced and sustainable energy
- Biomedical imaging, cellular and tissue engineering
- Advanced transportation systems, structures, hydraulics
- Environmental sustainability and water resources
- Advanced power systems
- Intelligent systems, control and robotics
- Communication, information technology and cyber security
- Active and supersonic flow controls
- Superconductivity materials and applications
- Manufacturing and operations research

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INSTITUTION

A historically black institution, Hampton University is a comprehensive institution of higher education, dedicated to the promotion of learning, building of character and preparation of promising students for positions of leadership and service. Its curriculum emphasis is scientific and professional with strong liberal arts undergirding. The University offers exemplary programs and opportunities which enable students, faculty and staff to grow, develop and contribute to our society in a productive and useful manner. In carrying out its mission, the University requires that everything that it does in the areas of teaching, research, and service be of the highest quality.

COLLEGE/SCHOOL OVERVIEW

The School of Engineering and Technology (SET) is home to academic programs in Architecture, Aviation, and Engineering. The School enrolls about 320 students and produces about 50 graduates annually. The SET strategic plan calls for expanding and strengthening the undergraduate offerings, building graduate engineering programs, and developing clearly defined research areas of excellence. The School is also building contracting relationships with prime contractors in a variety of applications across federal agencies.

ACADEMIC PROGRAMS

Bachelor of Science

- Electrical & Computer Engineering
- Chemical Engineering
- Aviation Management
- Aviation management – Air Traffic Control
- Flight Education
- Computer Science (School of Science)
- Mathematical Sciences (School of Science)

Graduate Degrees

- Master of Architecture
- Master of Science in Computer Science (School of Science)
- Master of Science in Physics (School of Science)
- Ph.D. in Physics (School of Science)

RESEARCH INITIATIVES AND CAPABILITIES

- Energy, the Environment and Sustainability
- Sensors and data fusion
- Data and network security
- Transportation systems and infrastructure
- Robotics
- Aerospace Propulsion
- Imaging (medical and non-medical)
- Materials
- Reverse Engineering
- Catalysis
- Manufacturing
- Imaging (medical and non-medical)
- Biomedical
- Medical Physics

POINT OF CONTACT

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INSTITUTION

Howard University is one of the country's leading private universities. Founded in 1867 in Washington, DC, it is the home to 13 schools and colleges offering undergraduate, graduate, doctoral and professional degrees in a number of disciplines. The University continues to attract the nation's top students and produces more on-campus African-American Ph.D.'s than any other university in the world. Since 1998, the University has produced two Rhodes Scholars, two Truman Scholars, 24 Fulbright Scholars, 20 Pickering Fellows, six Luard Scholars and 13 Presidential Scholars.

COLLEGE/SCHOOL OVERVIEW

The College of Engineering, Architecture and Computer Sciences (CEACS) is composed of the School of Engineering and Computer Sciences and the School of Architecture and Design. Our graduates are skilled in creative design and the application of technological and scientific solutions to complex and challenging problems, interpersonal relations, teamwork, critical thinking and leadership.

CEACS is home to six academic departments offering accredited undergraduate, graduate and professional programs. The departments are Architecture, Chemical Engineering, Civil & Environmental Engineering, Electrical and Computer Engineering, Mechanical Engineering, and Systems and Computer Science.

ACADEMIC PROGRAMS

Bachelor of Architecture

Bachelor of Science

- Chemical Engineering
- Civil Engineering
- Electrical Engineering
- Computer Engineering
- Mechanical Engineering
- Systems and Computer Science

GRADUATE PROGRAMS

- Master of Engineering (in Civil, Computer, Electrical, and Mechanical Engineering)
- Master of Science in Chemical Engineering
- Master of Computer Science
- PhD (in Computer & Information Systems Engineering, Electrical Engineering and Mechanical Engineering)
- Cybersecurity Graduate Certificate

RESEARCH INITIATIVES AND CAPABILITIES

- Chemical Engineering: Biomolecular—Nanotechnology—Environmental Engineering
- Civil & Environmental Engineering: Structural Engineering—Transportation Engineering—Geotechnical Engineering—Environmental Engineering—Water Resources—Sustainable Engineering—Nano technology
- Electrical and Computer Engineering: Signal Processing and Communications—Power and Control—Electromagnetics and Antenna—Material Sciences and Nanotechnology—Digital Systems
- Mechanical Engineering: Materials Engineering—Computational Fluid Mechanics—Manufacturing Engineering/Additive Manufacturing
- Systems and Computer Engineering: Cybersecurity—Computational Biology—Machine Learning—Data Communications—Computer Science Education

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Lorraine N. Fleming, Ph.D., PE Interim Dean

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INSTITUTION

Jackson State University® is a diverse, technologically-advanced four-year university steeped in history and committed to preparing its students to become global leaders. It provides a caring, nurturing environment in which to challenge its 9,134 students to improve themselves and serve others. It was founded in 1877 by the American Baptist Home mission Society and is located in the state's capital. In 1979, Jackson State was officially designated the Urban University of the State of Mississippi. The university also has campuses in Madison, MS and downtown Jackson.

COLLEGE/SCHOOL OVERVIEW

The College of Science, Engineering and Technology at Jackson State University is committed to implementing the University's mission and to focusing its intellectual, experience and other resources on improving the quality of life for its students, the surrounding community, state, nation and the global community. It is comprised of nine academic departments. Among them are the departments of Civil Engineering and Computer and Telecommunications Engineering which provide students with quality undergraduate and graduate programs that incorporate the systems aspect of professional engineering practice. The College has achieved a 7% increase in enrollment since 2010 and has been awarded 130 federally funded grants and contracts with awards totaling approximately \$30million annually. It also has over 14 federally funded student support programs.

ACADEMIC PROGRAMS

Bachelor of Science (Engineering)

Civil Engineering

- Environmental Track
- General Civil Engineering Track
- Electrical Engineering
- Biomedical Engineering
- General Electrical Engineering Track
- Power Systems Track Engineering
- Computer Engineering
- Computer Science

Graduate Degrees (Engineering)

M.S. Computer Science

M.S. Engineering

- Civil Engineering
- Masters and Doctorate in Mechanical Engineering
- Computational Engineering
- Electrical Engineering
- Environmental Engineering
- Geological Engineering
- Telecommunications Engineering

RESEARCH CENTERS

Coastal Hazards Center of Excellence, Center for Defense Integrated Data, High Performance Computing
Center Interdisciplinary Center for Nanotoxicity Center for Bioinformatics & Computational Biology
Research Centers in Minority Institutions Center for Environmental Health

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INSTITUTION

Morgan State University is designated by the State Legislature as Maryland's Public Urban University and is primarily responsible for addressing the needs of residents, schools, and organizations within the Baltimore Metropolitan Area. Enrolling about 8,000 students from all racial and ethnic backgrounds, the student body includes a enriching mix of international students. The mission of the University is to expose students to the full-range of experiences and services that will permit them to successfully meet global challenges that await them as they leave the university

COLLEGE/SCHOOL OVERVIEW

Guided by the motto "The Premier Public Urban School Serving the Global Community" School of Engineering enrolls about 850 students at the undergraduate and graduate levels. The school prides itself in offering programs which ensure that students develop mastery of fundamental STEM-based principles which may be applied effectively to benefit society. In addition to the nationally competitive accredited programs in civil and environmental, electrical and computer, and industrial and systems related engineering, it also offers unique programs that address challenges associated with urban transportation systems. The school has earned a reputation for its close faculty/student interaction, low student/faculty ratio, and opportunities for pre-professional experiences through gained internships. To ensure student success we have a diverse team of professionals working in close concert with our faculty to assist students in the negotiation the college environment. State-of the art facilities coupled with our program commitment to service, are all designed to achieve excellence through education.

ACADEMIC PROGRAMS

Bachelor of Science

- Civil & Environmental Engineering
- Electrical & Computer Engineering
- Industrial and Systems Engineering
- Transportation and Urban Infrastructure

Graduate Degrees

- Master of Engineering
- Master of Science in Electrical Engineering (On-Line)
- Certificate In Transportation Systems
- Certificate in Cybersecurity
- Doctorate of Engineering

RESEARCH INITIATIVES AND CAPABILITIES

Electrical & Computer Engineering- Cyber-security operations and physical systems, Software defined and cognitive radio systems, RF/Microwave/mm wave Communication Systems, Computational engineering and analytics, High performance analog integrated circuits, Biomedical engineering systems, Wireless cyber-security/information assurance, Engineering Education, Image and signal processing

Civil & Environmental Engineering - Water Resources and ground water systems, Bridge / Large-scale Structural Systems, Geotechnical studies, Geospatial and Remote Sensing Studies, Fluid Mechanics

Industrial & Systems Engineering- Lean and Advanced Manufacturing, Robotics and Automated Manufacturing, Project and Engineering Management, Ergonomics /Human Factors Engineering, Energy Systems, Data Mining, Industrial Safety and Health, Operations Research

POINT OF CONTACT

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INSTITUTION

Norfolk State University (NSU) is located in the vibrant urban city of Norfolk, Virginia and only 13 miles from the Atlantic Ocean in Virginia Beach, Virginia. NSU is accredited by the Commission on Colleges of the Southern Association of Colleges and Schools and adheres to the standards set forth by the State Council of Higher Education for Virginia. NSU boasts a student population of 7,100 students, and has a satellite campus at the Virginia Beach Higher Education Center. The University offers 32 undergraduate degrees, 16 master's degrees, three doctoral degrees, including: B.S. and M.S. in Computer Science, B.S. and M.S. in Electronics Engineering, B.S. and M.S. in Optical Engineering, the M.S. in Materials Science, and the Ph.D in Materials Science and Engineering.

COLLEGE/SCHOOL OVERVIEW

The College of Science, Engineering, and Technology (CSET) has over 2,000 students and presently comprises over 30% of the University's student enrollment. Undergraduate programs are ABET accredited, and graduate programs are driven by innovative state of the art research programs that enhance the educational experience for students, and prepare them for national defense, industrial and academic careers. The College of Science, Engineering, and Technology has played a pivotal role in the University's seventy-five year history. Faculty contributions in research, education, service, and mentoring are exceptional. Graduates are securing outstanding jobs and are earning advanced degrees in record numbers. The College currently houses several research centers – the Center for Materials Research (CMR), the Information Assurance – Research, Education and Development Institute, the Micro- and Nano-technology Center, and the Creative Gaming and Simulation Laboratory.

ACADEMIC PROGRAMS

Bachelor of Science

- Electronics Engineering
- Optical Engineering
- Computer Science – Information Assurance and Computer Engineering
- Information Technology

Graduate Degrees

- Master of Electronics Engineering
- Master of Optical Engineering
- Master of Materials Science
- Master of Computer Science
- Master of Computer Science – Cyber Security
- PhD in Materials Science and Engineering

RESEARCH INITIATIVES AND CAPABILITIES

Cyber Security; Information Assurance; Cognitive Wireless Networks and Cloud Computing Security; Digital Forensics; Smart Grids Security; Modeling of Biological Neurons; Optics, Plasmonics; and Meta-materials; Nano-materials and Nano-technology; Advanced Functional Materials; Devices; Semiconductor Materials and Devices; Neural Probes; Biosensors; Photovoltaics; MEMS Actuators; Multi-functional Sensors, and High K Dielectrics

POINT OF CONTACT

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NORTH CAROLINA AGRICULTURAL
AND TECHNICAL STATE UNIVERSITY

North Carolina Agricultural and Technical State University

INSTITUTION

North Carolina Agricultural and Technical State University is a public, doctoral research, 1890 land-grant university committed to exemplary teaching and learning, scholarly and creative research, and effective engagement and public service. The university offers degrees at the baccalaureate, master's and doctoral levels and has a commitment to excellence in a comprehensive range of academic disciplines. Our unique legacy and educational philosophy provide students with a broad range of experiences that foster transformation and leadership for a dynamic and global society.

COLLEGE/SCHOOL OVERVIEW

The College of Engineering is proud of the quality of education and research of our College; and inspired by the innovativeness, capabilities, and achievements of our engineering students, graduates, faculty, and staff. Our bachelor's, master's, and doctoral degree programs are distributed across seven departments: Chemical Biological and Bio Engineering; Civil, Architectural and Environmental Engineering, Computer Science; Electrical and Computer Engineering; Industrial and Systems Engineering, Mechanical Engineering; and the interdisciplinary Computational Science and Engineering program.

ACADEMIC PROGRAMS

Departments

- Civil, Architectural and Environmental Engineering
- Chemical, Biological and Bio Engineering
- Computational Science and Engineering
- Computer Science
- Electrical & Computer Engineering
- Industrial and Systems Engineering
- Mechanical Engineering

Degrees Offered

- Architectural Engineering (BS)
- Bio Engineering (BS, MS)
- Biological Engineering (BS)
- Chemical Engineering (BS, MS)
- Civil Engineering (BS, MS)
- Computer Engineering (BS)
- Computational Science and Engineering (MS & PhD)
- Computer Science (BS, MS, & PhD)
- Electrical Engineering (BS, MS, & PhD)
- Industrial and Systems Engineering (BS, MS, & PhD)
- Mechanical Engineering (BS, MS & PhD)

FIVE COE CROSS DEPARTMENTAL RESEARCH STRENGTHS

- Energy and Sustainability
- Healthcare Applications
- Multi-scale Materials Development and Analysis
- Aerospace and Transportation Systems
- Wireless communication
- Cyber Security and Network Operations

POINT OF CONTACT

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Prairie View A&M University

- A Member of the Texas A & M University System -



INSTITUTION

Prairie View A&M University (PVAMU) is a comprehensive public institution of higher education and a land-grant university as part of the Texas A&M University System. Founded in 1876, the university's main campus is located at the city of Prairie View approximately 40 miles northwest of Houston, Texas. There are also two outreach campuses within the city limit of Houston. The university's enrollment now exceeds 8,350 including more than 2,000 graduate students. PVAMU offers baccalaureate degrees in 50 academic majors, 37 master's degrees and four doctoral degree programs through nine colleges and schools. During the University's 135-year history, some 57,700 academic degrees have been awarded.

COLLEGE/SCHOOL OVERVIEW

The Roy G. Perry College of Engineering offers eight ABET accredited undergraduate programs, four master's degrees, and one Ph.D. degree. The College is a unique community of students, faculty, staff, and scholars dedicated to the advancement, sharing and communication of knowledge in the fields of engineering, computer science, and engineering technology. Housed in a five-building engineering complex on the Prairie View A&M main campus, the most highly focused component of the college is student learning. Undergraduate and graduate programs are structured for discovery, applied learning, interpretation and the communication of learning through shared

interactive courses and laboratories designed to engage students and faculty alike. The College prepares students to become dedicated and productive members of society. The College receives about \$8M funded projects annually from governmental agencies and private sectors. The College enrolls more than 1350 students; about 10% of them are graduate students.

ACADEMIC PROGRAMS

Bachelor of Science

- Chemical Engineering
- Civil Engineering
- Computer Engineering
- Computer Engineering Technology
- Computer Science
- Electrical Engineering
- Electrical Engineering Technology
- Mechanical Engineering

Graduate Degrees

- Master of Science in Engineering with concentrations in Chemical, Civil, Environmental, and Mechanical Engineering.
- Master of Science in Computer Science
- Master of Science in Computer Information System
- Master of Science in Electrical Engineering
- PhD in Electrical Engineering
- Masters and Doctorate in Mechanical Engineering

RESEARCH INITIATIVES AND CAPABILITIES

- Telecommunication, wireless sensor network, and battlefield communication
- Radiation engineering and science for space exploration
- Renewable energy and environmental sustainability
- Nano-composites fabrication, characterization, and testing
- Data processing, image coding, virtual reality, and virtual prototyping
- Thermal science and computational fluid dynamics
- Gulf coast environmental data collection and analysis
- High performance computing, cloud computing

POINT OF CONTACT

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Southern University and A&M College

INSTITUTION

Southern University and A&M College founded in 1880 is a publicly supported, coeducational, land-grant, historically Black, comprehensive institution. The Southern University System is the largest HBCU system in the nation. It is composed of five (5) campuses in Baton Rouge, New Orleans, Shreveport, the Agricultural Research and Extension Center, and the Law Center and it is managed by the Southern University Board of Supervisors. Southern University and A & M College is a Carnegie Masters/Comprehensive level institution with an average enrollment of 7,000 students at the Baton Rouge campus. It offers bachelor's degrees in 42 areas, 19 master's, six doctoral, and two associate degrees. During its proud 134 year history the University has maintained its unique status as the "flagship" institution of the only historically black university system in the nation.

COLLEGE/SCHOOL OVERVIEW

The College of Engineering and Computer Science provides students with technological skills and opportunities that stimulate professional, educational, and personal growth. The college provides this growth through a diverse faculty and staff that is committed to teaching, research, and service. Students are encouraged to participate in laboratory research and cooperative education programs that enhance career confidence. They also are encouraged to participate in ongoing research with faculty members that contribute to engineering innovations. The college maintains an atmosphere that enhances the student's ability to achieve the optimum learning experience. The college offers five undergraduate programs in civil engineering, electrical engineering, mechanical engineering, computer science, and electronics engineering technology leading to a Bachelor of Science degree. The college also offers two master degree programs: 1) the Master of Engineering program with three specialty areas: 1a) Materials Science and Engineering; 2a) Sustainable Systems Engineering, and 3a) Engineering Management and 2) the Master of Computer Science program with two specialty areas: 1b) Digital Data Communications and 2b) Database Management and Data Mining

ACADEMIC PROGRAMS

Bachelor of Science

- Civil Engineering
- Electrical Engineering
- Mechanical Engineering
- Electronics Engineering Technology
- Computer Science

Graduate Degrees

- Master of Engineering
- Master of Science in Computer Science

RESEARCH INITIATIVES AND CAPABILITIES

- Industrial Wastewater Treatment, Air Pollution, Solid Wastes
- Pavement Design and Management; Nanomechanics of Clay Materials
- Telecommunications & Computer Network Engineering
- Electronic Materials & Processing; Semiconductor Device Fabrication
- Advanced Materials; Micro & Nano Technologies
- Renewable Energy & Energy Optimization; Computational Fluid & Heat Transfer
- Operating Systems and Architecture; Algorithms and Theory of Computing
- Software Engineering; Digital Data Communications
- Database Management and Data Mining

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INSTITUTION

Tennessee State University (TSU) is a comprehensive, urban, coeducational and land-grant university offering undergraduate, graduate and doctoral degrees. Founded in 1912, it is located in Nashville, TN, the state capital, and sits on 500 acres near the Cumberland River in a residential neighborhood just 10 minutes northwest of downtown. The university also has a downtown campus in Nashville. Tennessee State University provides 77 majors in eight undergraduate and graduate colleges and schools, and enrolls about 7000 undergraduates and 2000 graduate students.

COLLEGE/SCHOOL OVERVIEW

The College of Engineering is committed to providing the highest quality industry-driven curricula in engineering, technology, computer and mathematical sciences. The College currently provides accredited BS degrees, and graduate degrees in strategic and emerging disciplines for research and working professionals. The graduate programs are supported by advanced laboratories and research centers in fields such as cyber-physical and security systems, sensor and data fusion, control systems, bioinformatics, energy systems, and wireless communication. The college currently has funded grants with the Air Force Research Lab, Army Research Office, US Navy, Department of Homeland Security, Department of Transportation, Boeing Company, and the National Science Foundation. The college enrolls about 900 students and produces about 75 graduates annually.

ACADEMIC PROGRAMS

Bachelor of Science

- Architectural Engineering
- Civil & Environmental Engineering
- Electrical & Computer Engineering
- Mechanical & Manufacturing Engineering
- Aeronautical & Industrial Technology
- Computer Science
- Mathematical Sciences

Graduate Degrees

- Master of Engineering
- Master of Science in Computer & Information Systems Engineering
- PhD in Computer & Information Systems Engineering

RESEARCH INITIATIVES AND CAPABILITIES

- Cyber-security/physical systems
- Sensor and data fusion
- Intelligent health monitoring and control systems
- Data and network security
- Wireless communication
- Advanced transportation systems and infrastructure
- Intelligent manufacturing systems and advanced robotics

POINT OF CONTACT

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INSTITUTION

Tuskegee University is a national, independent, and coeducational institution that has a historically unique relationship with the State of Alabama, indeed the Nation, and the World. At its core, the University prepares students academically, both graduate, professional, and undergraduate, for insertion into a world driven by technology, an interdependent political landscape and a society of complexity that needs solutions to challenging problems. The University has distinctive strengths in the sciences, architecture, business, engineering, and health, all structured on solid foundations in the liberal arts. The University's programs focus on nurturing the development of high-order technical, scientific, intellectual, moral and ethical qualities in students. Also stressed is the connection between education and the qualities of leadership that graduates must manifest, especially for the 21st Century workforce and beyond. We seek students whose technical, scientific and professional qualities are rigorously honed, and people whose spirits are sensitively oriented in ways that make them committed to go beyond self-centered competence to excellence and service to others.

COLLEGE/SCHOOL OVERVIEW

The College of Engineering, with an enrollment of 800, regarded premier for its production of exceptionally prepared graduates ready to perform with a broad educational background, graduates 100 undergraduate and graduate students annually. The College provides an academic portfolio through the disciplines of engineering to engage students in envisioning learning excellence, research and exploration, and service to the nation and the global community. The College is programmed for excellence with the context of Booker T. Washington, the innovation of George Washington Carver, and the mettle of the Tuskegee Airmen armed with facilities, professional faculty and staff, and the resources that support public/private funding as demonstrated by its Partners and Friends. Graduate programs explore new frontiers for solutions that support global issues. Accredited undergraduate programs have become a tradition for students to enter and complete post-secondary/graduate studies in engineering.

ACADEMIC PROGRAMS

Bachelor of Science

- Aerospace Science Engineering
- Chemical Engineering
- Electrical Engineering
- Mechanical Engineering

Graduate Degrees

- Master of Chemical Engineering
- Master of Electrical Engineering
- Master of Mechanical Engineering
- Master of Systems Engineering
- PhD in Materials Science and Engineering
- Master of Materials Science and Engineering

RESEARCH INITIATIVES AND CAPABILITIES

Aerospace: aerodynamics - flight simulation - human interface – aeronautics – manufacturing.

Chemical: bio-fluidics/fuels/chemical - corrosion – environmental - water and wastewater - modeling.

Electrical: electronic warfare - systems engineering - Smart Grid - adaptive networks - cyber security.

Mechanical: fatigue/corrosion - membranes - robotics - metallurgy - indoor air quality/flood abatement.

Materials Science: characterization - nano-materials - performance/nondestructive evaluation.

POINT OF CONTACT

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University of the District of Columbia



INSTITUTION

The University of the District of Columbia is a pacesetter in urban education that offers affordable and effective undergraduate, graduate, professional, and workplace learning opportunities. The institution is the premier gateway to postsecondary education and research for all residents of the District of Columbia. As a public, land-grant institution, the University's responsibility is to build a diverse generation of competitive, civically engaged scholars and leaders. Building on a 160-year tradition of excellence and opportunity, the University enrolls about 6000 diverse students. As the nation's only urban land-grant institution, the University's mission is to foster the education, critical thinking, and intellectual growth of its students, and the creation and application of new knowledge and the effective engagement with the surrounding world.

COLLEGE/SCHOOL OVERVIEW

The School of Engineering and Applied Sciences (SEAS) offers nationally competitive and fully accredited professional programs at the baccalaureate, and graduate levels. These programs enable immediate employment upon graduation or for continuation for advanced levels studies. The School offers strong, ABET- accredited Bachelor degree programs in Civil, Electrical, Mechanical Engineering and Computer Science. SEAS also offers Bachelor degree program in Information Technology.

ACADEMIC PROGRAMS

Bachelor of Science

- B.S. Civil Engineering
- B.S. Electrical Engineering
- B.S. Computer Engineering
- B.S. Mechanical Engineering
- B.S. Computer Science
- B.S. Information Technology

Graduate Degrees

- M.S. Computer Science
- M.S. Electrical Engineering

RESEARCH INITIATIVES AND CAPABILITIES

- The Center of Excellence for Renewable Energy(CERE) is working with international agencies to develop energy power source for pumping water.
- Assurance Research Center for Trusted Information Computing (ARCTIC) has been designated as the National Center of Excellence.
- Research capabilities include Cyber Security; Information Assurance; High Performance Computing, Sensor Networks, Computational Geometry, Robotics, Mechatronics, Energy Conversion, Modeling and Simulation, Advanced Manufacturing, Product Design, Nanotechnology, Renewable Energy, Rehabilitation Engineering and Bio-assisted devices, Structural Engineering, Water Resources Engineering and Construction Engineering.

POINT OF CONTACT

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INSTITUTION

Virginia State University (VSU) was founded in 1882 in Petersburg, Virginia. It is one of Virginia's two land-grant institutions and was the first state-supported four-year institution of higher learning for Black Americans in the U.S. Today, VSU has a student population of over 5,300 and offers 55 bachelor's and master's degrees, 2 doctoral degrees, and three certificates. Students study and conduct research in one of five schools: the School of Agriculture; the School of Business; the School of Engineering, Science and Technology (SEST); the School of Liberal Arts and Education; and the School of Graduate Studies, Research and Outreach.

SCHOOL OF ENGINEERING SCIENCE AND TECHNOLOGY

The School of Engineering, Science, and Technology is focused on solving tough problems. We define success as the growth and discovery of fundamental knowledge and the movement of these ideas and results from the laboratory to the real world. The goal is to transform communities by attracting and retaining key industries, enhancing economic development, and creating jobs. Our research helps companies improve their products and services for items as diverse as jet engines, copiers, and cutting tools. We align our resources and capabilities to the workforce needs of local, regional, and national economies.

UNDERGRADUATE PROGRAMS

Bachelor of Science

- Computer Engineering
- Manufacturing Engineering
- Computer Sciences
- Information and Logistics technology
- Psychology
- Chemistry
- Biology

GRADUATE PROGRAMS

- Master of Science in Computer Science
- Master of Science in Mathematics
- Master of Science in Biology/Informatics
- Ph.D. Psychology

RESEARCH INITIATIVES AND CAPABILITIES

- Cognitive Science and Human Behavior
- Unmanned Aerial Systems
- Cyber Security / Big Data
- Bioinformatics
- Enterprise Systems and Logistics

ORGANIZING UNIVERSITY RESEARCH PARTNERSHIPS

Commonwealth Center for Advanced Manufacturing <http://www.ccam-va.com/>

Commonwealth Center for Advanced Logistics Systems <http://www.ccals.com/>

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AMIE MEMBER COMPANIES LISTING

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- Corning
- EMC
- Exelon
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- Harley Davidson
- iAM Solutions
- Infosys
- Lockheed Martin
- Meridian Management Group
- Michigan State University
- National Security Agency
- Naval Air Systems Command (NAVAIR)
- Naval Sea Systems Command (NAVSEA)
- Northrop Grumman
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- Raytheon Company
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DESCRIPTION

Advancing Minority Interest In Engineering (AMIE) is a non-profit organization whose purpose is to expand corporate, government, and academic alliances to implement and support programs to attract, educate, graduate and place underrepresented minority students in engineering careers.

The outcome of an initiative by Abbott Laboratories in 1992, AMIE represents a coalition of industry and government agencies, and the ABET accredited Historically Black Colleges & Universities (HBCU) Schools of Engineering, who see a diversified workforce as a competitive advantage and an essential business strategy.

POINT OF CONTACT

<http://www.amiepartnerships.org>

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U.S DEPARTMENT OF EDUCATION

<http://www.ed.gov>

**WHITE HOUSE INITIATIVE ON HISTORICALLY
BLACK COLLEGES AND UNIVERSITIES**

<http://www2.ed.gov/about/inits/whhbcu/edlite-index.html>

**WHITE HOUSE INITIATIVE ON EDUCATIONAL
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<http://ed.gov/about/inits/list/hispanic-initiative/index.html>

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