

Historically Black Colleges and Universities-Undergraduate Program

**Albany State
University**



University System of Georgia

HBCU-UP

Biology
Chemistry
Computer Science
Mathematics
Physics

**Enhancing
Science, Mathematics, Engineering
and Technology Preparation**

January 2001

Supported by the National Science Foundation



Table of Contents

**Goals and Objectives of HBCU-UP Program
Resources and Learning Center
(Mathematics and Natural Sciences).....2**

Mathematics and Technology3

Natural Sciences Technology and Curriculum.....3

The Summer Bridge Program4

Goals and Objectives of Summer Bridge Program4

Field Trip Experiences5

**HBCU-UP Staff
and Advisory Committee Members.....7**

Mission Statement8

History9

Accreditation.....10

Undergraduate and Graduate Studies10

Albany State University Campus Activities.....11

**Albany State University at 2000 Alabama
LSAMP/AGEP Summer Research Conference.....12**

**Albany State University at 2000 HBCU-UP12
Winter Research Conference**

**Albany State University at 2000
National Science Foundation Alliance for
Graduate Education and the Professorate13**

**Academic Affairs, Fiscal Affairs and
Student Affairs Officials13**

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Albany State University Historically Black Colleges and Universities Undergraduate Program

Albany State University supports the mission, goals and implementation plan of the Historically Black Colleges and Universities Undergraduate Program (HBCU-UP) that has been funded by the National Science Foundation. This initiative with the opportunity to serve high school graduates who are poised to enter the University and baccalaureate students is proving to be a catalyst in the enhancement of science and mathematics improvement in Southwest Georgia. While many students in these areas are considered to be performing below capacity, the educators at the institution are dedicated to the transformation articulated by the HBCU-UP initiative. Many of our partners are also committing a number of their resources to facilitate the successful achievement of the goals established for this program.



*President
Dr. Portia Holmes Shields*

The Office of the President has collaborated with the project staff since the inception of the program and has provided guidance in all phases of its development. The institution is committed to the project and will continue to provide needed resources to facilitate improvement in the areas of science, mathematics, engineering and technology (SMET) at the University. This input will include training and technology assistance services, release time for faculty and staff personnel and travel enhancements for students and the project staff.

The HBCU-UP project is impacting students by significantly enhancing and improving the undergraduate SMET programs at Albany State University. The strengthening of teaching and learning methodologies is helping to improve access and retention of students who matriculate in these programs. Consequently, our graduates are going to be better prepared to enter the workforce or professional school as a result of having this initiative on our campus.

Program Elements

Goals and Objectives

Albany State University has received support from the National Science Foundation's (NSF) HBCU Undergraduate Program to assist with the implementation of our goal of providing systemic approaches to strengthen the institution's science, mathematics, pre-engineering and technology (computer science) programs. To facilitate the achievement of this goal, the following project objectives were formulated for the program:

- reduce the attrition rate of students in gateway (SMET) courses
- establish a technology based resource center that supports students and teachers
- increase the infusion of technology in all phases of SMET instruction
- increase the number of SMET students participating in Internship and Cooperative Education Programs
- develop a bridge program between high schools and Albany State University (ASU)

Resources and Learning Center

The Department of Mathematics and Computer Science Resource and Learning Center was established in January 2000. The center is located in Simmons Hall Room 201. The center is equipped with ten (10) wireless networked computers, one video cassette recorder (VCR), one television, one Infocus projector, five desktop computers, and a laser printer. The center has been partitioned into several sections to give the students separate areas to explore different modes of learning, such as verbal, audio, and visual. These sections are listed below:

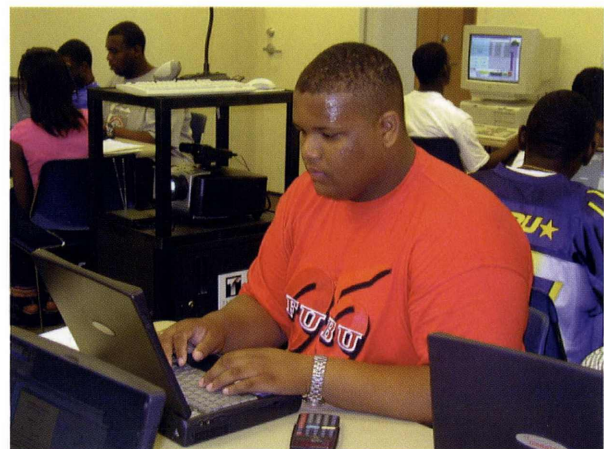
1. A tutorial section, where students are tutored as a group or individually.
2. A Video Library section, where students can view videos on certain topics or check out mathematics and technology books.
3. A Work section, where students use the wireless computers to work on concepts in the area of mathematics or technology.

Tutors are available to assist students in mathematics and computer science. A laboratory

manager is responsible for presenting workshops on software applications and the overall management of the laboratory. The manager is also responsible for installing and configuring software.

Natural Sciences

The Natural Sciences Resource and Learning Center was established in January 2000. The Department of Natural Sciences houses Biology and Chemistry majors. The Pre-Engineering Transfer Program is also located in the department. The center is equipped with (9) nine desktop computers, fifteen (15)



HBCU-UP student, Bernard Postell, completing homework task.

wireless computers, an Educart System and one printer. The center is designed so that students may use desktop and wireless computers for class activities and assignments. Weekly classes in Pre-Engineering and Physics are held in the center. Some Chemistry classes (General Chemistry and Organic) are also conducted at this site. The center is open to students for computer-assisted tutorials, with supervision by respective faculty, between the hours of 8:00 AM and 6:00 PM.

Mathematics and Technology

A student scoring less than a 70 on quizzes, exams or other graded exercises must document at least two hours in the Resource Learning Center. The Pre-calculus course is required for all majors in science, mathematics, engineering and technology.

The Math 1113 Pre-calculus course was chosen as the first course in which to incorporate technology in the teaching of Mathematics concepts because it is the first course taken by Mathematics and Computer Science majors. As part of the course requirement for Math 1113 Pre-calculus, every student must demonstrate competence using:

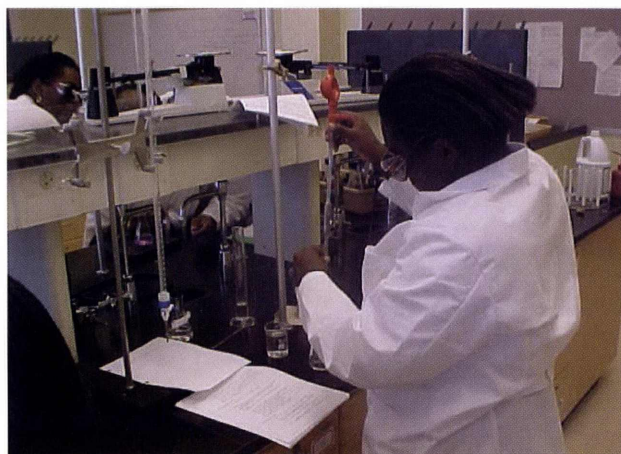
- the internet for resources and for getting homework assignments
- a scientific calculator
- computer software for learning mathematics.



Dr. Masih helping students, Camiella Payton and Lavonda Williams with a math assignment.

Natural Sciences Technology and Curriculum

Technology has been incorporated in all of the gateway Natural Sciences courses (Zoology Part I and Part II (Biology 2111K and Biology 2112 K); General Chemistry Part I and Part II (CHEM 1211K and CHEM 1212K); Introductory Physics Part I and Part II (PHYS 1111K and PHYS 1112K); and Organic Chemistry Part I and Part II (CHEM 2301K and CHEM 2302K). The use of the center is specified on each course syllabus. The Pre-Engineering courses are also taught in the center.



HBCU-UP student, Kristal Cooper, completing a chemistry lab.

The University provided the space for the two centers within the Departments of Mathematics and Computer Science and Natural Sciences and storage space for equipment, technical support, renovation, and furnishing for the Resource and Learning Center. Also, as evidence of the University's support, release time has been provided for three tenured faculty members in the Mathematics and Computer Science Department.

The Summer Bridge Program

Goals and Objectives

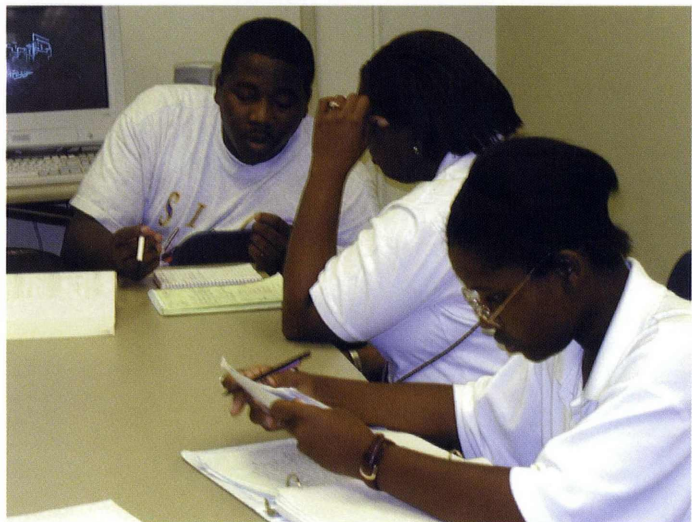
The Summer Bridge Program is a six-week residential college preparatory program designed to enhance the preparation of underrepresented minority students who are interested in pursuing careers in mathematics, engineering and the biological, computer and physical sciences.



HBCU-UP and HCOP Students

The goal of the program is to significantly increase the number of students enrolling in and successfully completing quality Science, Mathematics, Engineering and Technology (SMET) Programs, which will prepare them for advanced studies and experiences in these areas.

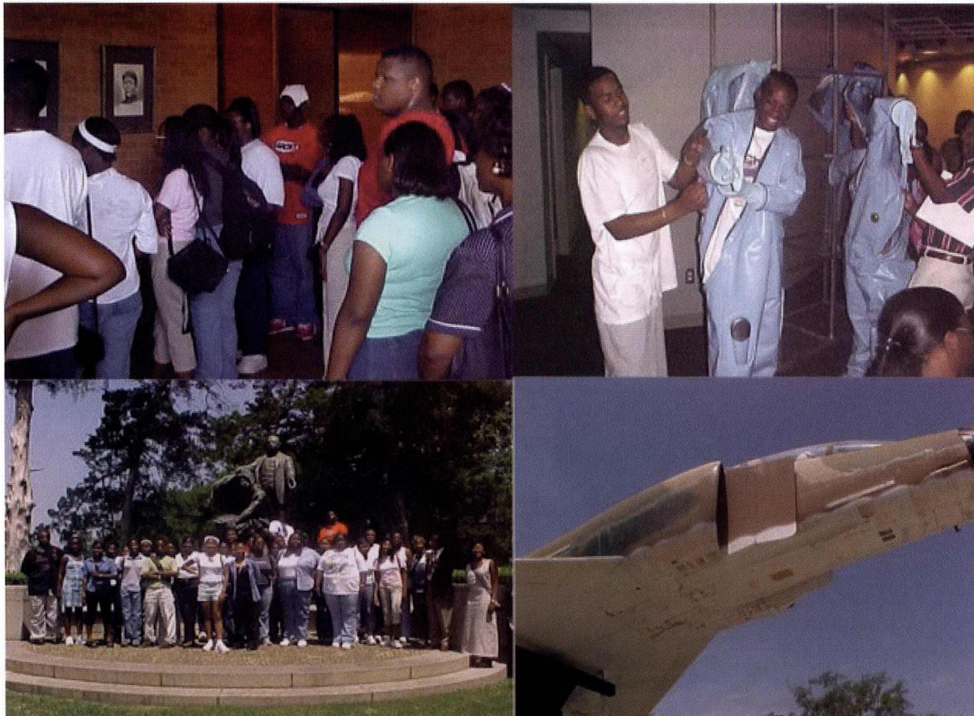
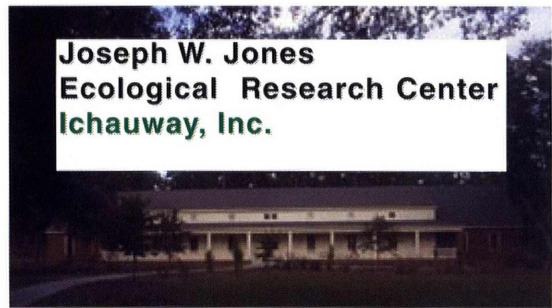
- High school students begin their university career with a six-week residential program during the summer immediately before entrance into the university.
- Incoming freshmen take enrichment courses, which include: English, Mathematics, Chemistry, Biology and learn study skills that facilitate increased learning in the classroom.
- Freshmen often do not realize that success in university courses requires far more study time than does obtaining high achievement in high school. The summer experience will allow students to experience the rigors of university-level instruction and testing in mathematics, technology and science courses.
- The program encourages students to learn how to work together in problem-solving sessions and to use ASU's tutorial labs (designed to help students not simply to survive in these courses, but to excel).
- Students are encouraged to interact with professors and to be assertive and comfortable when talking about their academic progress.
- Students are encouraged to interact with students who are participating in other enrichment programs on campus (e.g, HCOP) and at external sites (e.g, UAB).



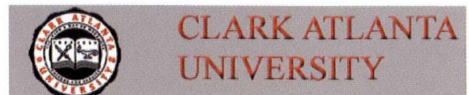
Tutor, Iman Haamid, assisting HBCU-UP students, Andrea Leggett and Candace Hunter, with a class project

Field Trip Experiences

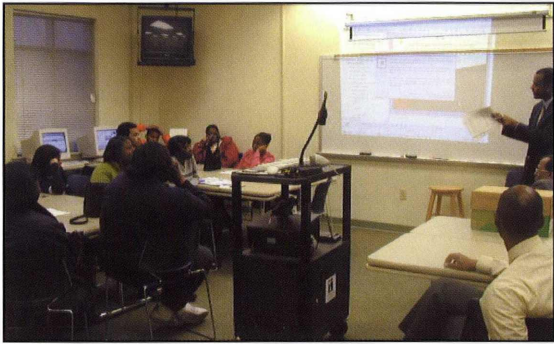
ASU HBCU-UP Scholars have been actively involved in a variety of field trip experiences. The images below capture some of the graduate schools, industrial and research sites that were visited by Albany State University students and faculty.



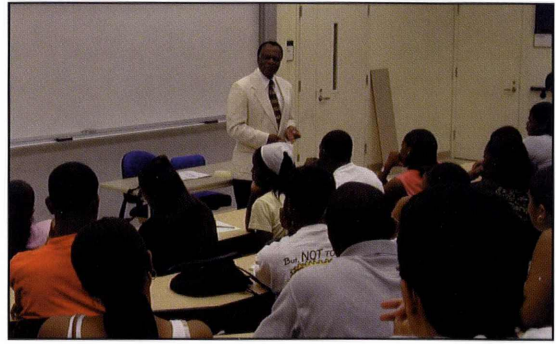
Procter & Gamble



ASU HBCU-UP Activities



HBCU-UP Scholars monthly meeting



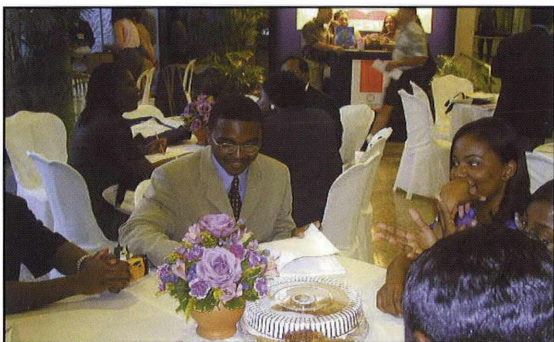
HBCU-UP Seminar with Dr. Louis Dale



Procter & Gamble Engineers speak to HBCU-UP Scholars



ASU HBCU-UP Participants at the Universidad Metropolitana (UMET) 11th Undergraduate Research Symposium in San Juan, Puerto Rico



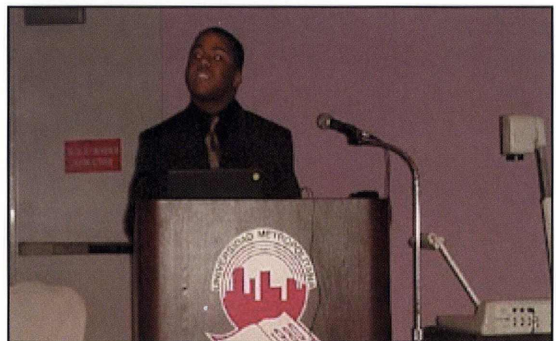
ASU students enjoying a meal



Students preparing for presentations



ASU student, Candace Porter, giving presentation



*ASU Student John Williams
1st Place Oral Presentation \$2,000 winner*

Albany State University HBCU-UP Advisory Committee Members



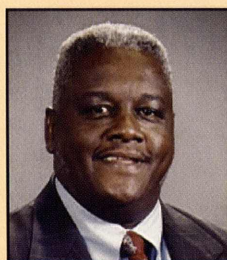
Dr. Portia Holmes Shields
President, ASU
and Chair



Dr. Ellis Sykes
Project Director



Mrs. Connie Leggett
Co-Director



Dr. John Culbreath
Superintendent, Dougherty
County School System



Dr. Joshua Murfree
Director of Honors
Program, ASU



Dr. JoAnn McCrary
Principal Investigator



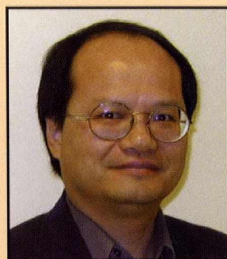
Dr. Louise Wrensford
Principal Investigator



Dr. Granville Wrensford
Principal Investigator



Ms. Gwendolyn Campbell
Principal Investigator



Dr. Kwaichow Chan
Principle Investigator



Dr. Samuel Masih
Principal Investigator

Infrastructure for Program Support

Mission Statement

Albany State University, a historically black institution in Southwest Georgia, has been a catalyst for change in the region from its inception as the Albany Bible and Manual Training Institute to its designation as a university. Founded in 1903 to educate African American youths, the University proudly continues to fulfill its historic mission while also serving the educational needs of an increasingly diverse student population. A progressive institution, Albany State University seeks to foster the growth and development of the region, state and nation through teaching, research, creative expression and public service. Through its collaborative efforts, the University responds to the needs of all its constituents and offers education programs and service to improve the quality of life in Southwest Georgia.



University Dormitories

The primary mission of Albany State University is to educate students to become outstanding contributors to society. Offering Bachelor's, Master's and Education Specialist degrees and a variety of non-degree educational programs, the University emphasizes the liberal arts as the foundation for all learning by exposing students to the humanities, fine arts, social sciences and the sciences. Global learning is fos-

tered through a broad-based curriculum, diverse University activities and the expanding use of technology.

A leader in teacher education, nursing, criminal justice, business, public administration and the sciences, Albany State provides a comprehensive educational experience with quality instruction as the hallmark of all its academic programs. The University embraces the concept of "students first" as a core institutional value and is committed to "education on a personal level". The University advocates the total development of students, especially the under served, and provides a wholesome academic environment in which students can study, learn and develop through their interaction with fellow students, faculty, staff, administrators, visiting scholars and community leaders.

History

1903 - Albany State University, established originally as the Albany Bible and Manual Training Institute and supported by private and religious organizations, was founded by Joseph Winthrop Holley.

1917 - The institution became a state-supported, two-year college with a Board of Trustees and its name was changed to Georgia Normal and Agricultural College.

1932 - The Board of Regents was established, and the institution became a part of the newly established University System of Georgia.

1954 - Secondary-level programs were developed for teacher preparation in science, health and physical education, business, music, mathematics and natural sciences.

1961 - The college was authorized to offer a four-year degree program in nursing.

1972 - The graduate program, a cooperative effort with Georgia State University, was added to the curriculum.

1975 - A master's degree in business administration, through Valdosta State College, was added to the graduate program.

1981 - The college began offering a graduate program designed and delivered solely by faculty and staff of Albany State College. Master's degrees in business administration and education were offered.

1996 - Albany State College was granted university status and the name of the institution was changed to Albany State University.



President's Office

Profile

Accreditation

Albany State University is accredited by the Commission on Colleges of the Southern Association of Colleges and Schools (1866 Southern Lane, Decatur, Georgia 30033-4097; Telephone number 404-679-4501) to award Bachelor's, Master's and Education Specialist degrees.

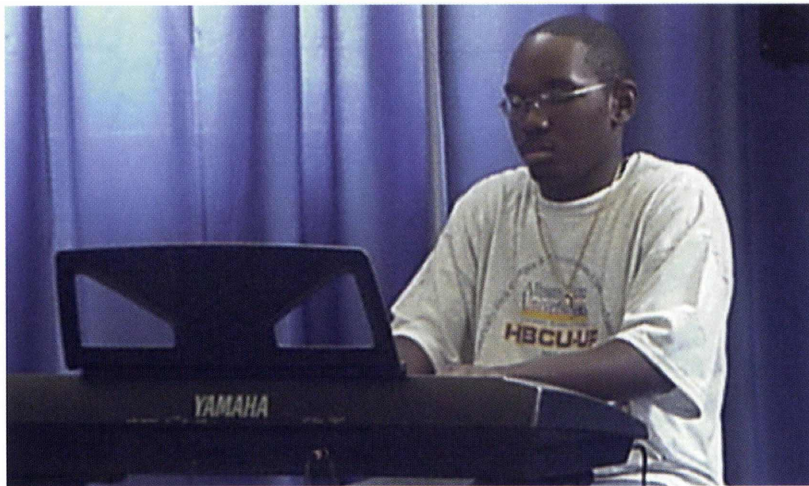


Albany State University is also accredited by the National Council for Accreditation of Teacher Education, the Georgia Professional Standards Commission, the Association of Collegiate Business Schools and Programs, the National League for Nursing and approved by the Georgia Board of Nursing.

Individual colleges and departments also hold memberships in the regional and national professional organizations associated with their respective disciplines.

Undergraduate and Graduate Studies

The Albany State University undergraduate curriculum includes studies in Allied Health Sciences, Art, Biology, Chemistry and Physics, Criminal Justice, English and Modern Languages, History and Political Science, Mathematics and Computer Science, Music, Sociology, Social Work, Psychology, Speech and Theatre, Business Administration, Accounting, Management, Marketing, Administrative Systems and Business Education, Education, Special Education, Health, Physical



HBCU-UP student, Micah Lewis, provides entertainment for HBCU-UP Summer Bridge Program closing ceremony.

Education and Recreation and Nursing. The University offers graduate studies leading to the Master of Education Degree (M.Ed.), Master of Business Administration Degree (M.B.A.), the Master of Science in Criminal Justice Degree (M.S.), the Master of Public Administration Degree (M.P.A.), the Master of Science Degree in Nursing (M.S.N.) and the Specialist Degree in Educational Administration (Ed.S.).

Albany State University

Campus Activities



ASU Volleyball Team



Homecoming Parade



ASU Golden Rams Football Team



ASU Marching Rams Show Band

2000 Alabama LSAMP/AGEP Summer Research Conference

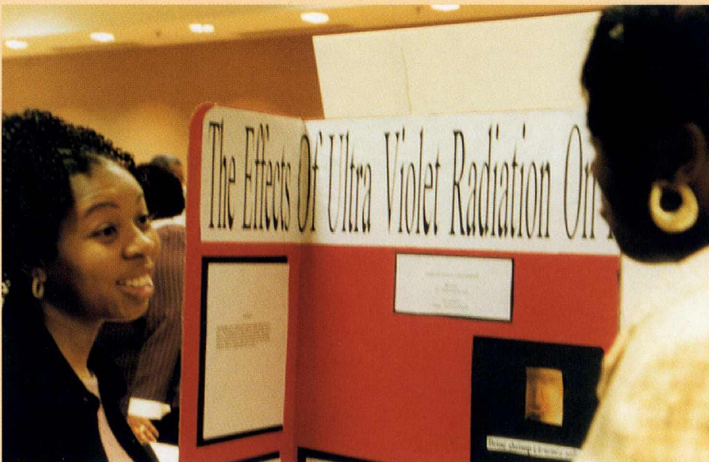


*Dr. Ellis E. Sykes Luncheon/Awards
Ceremony Guest Speaker*



Student Award Presentation

Miles College 2000 HBCU-UP Winter Research Conference



*ASU students, Patrina Flood and Gwendolyn Williams
Poster Presentations*

2000 National Science Foundation AGEP Graduate School Fair



ASU Graduate School Fair Participants

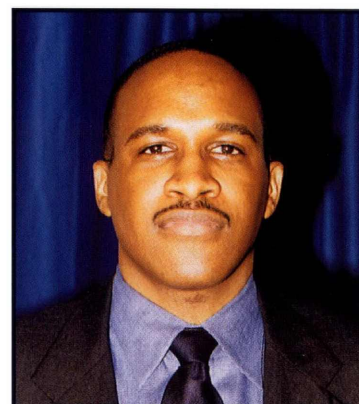
Academic Affairs, Fiscal Affairs, and Student Affairs Officials



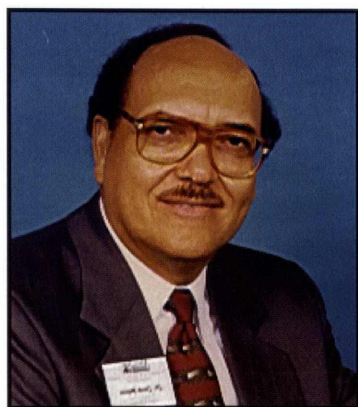
Dr. Mollie Brown
Interim Vice President for
Academic Affairs



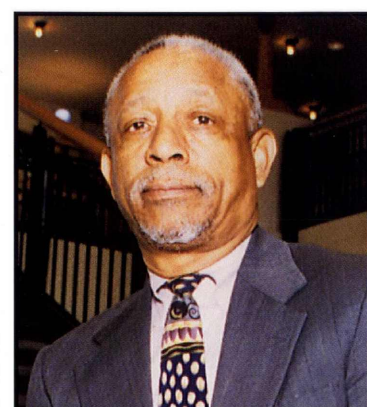
Mr. Kenneth Dyer
Vice President for
Fiscal Affairs



Dr. Walter Kimbrough
Vice President for
Student Affairs



Dr. Claude Perkins
Associate Vice President
for Academic Affairs and
Interim Dean of
Graduate School



Dr. James L. Hill
Assistant Vice President
for Academic Affairs

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President

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M.A., George Washington University
Ph.D., University of Maryland

Brown, Mollie Brown

Interim Vice President for Academic Affairs

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Dyer, Kenneth

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Howard, William L.

Assistant Vice-President for Fiscal Affairs

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Albritten, Arna T.

Registrar

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M.B.Ed., Georgia State University



Price, Patricia

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Caldwell, Kathleen J.

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McLaughlin, Lavern

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M.S.L.S., Atlanta University

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M.P.A., Albany State University

Duncan-Baker, Quanda

Interim Director of Alumni Affairs

B.S., Albany State University

Hoke, Cynthia C.

Special Assistant to the President

B.A., Georgia State University

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B.S., Morehouse College
M.S., Ph.D., University of Georgia

Ojemakinde, Abiodun

Interim Dean, College of Business

B.S., University of Ife
M.S., Ph.D., Louisiana State University

Campbell, Wilburn

Interim Dean, College of Education

Chair of Health, Physical Education and Recreation

B.S., Morehouse College
M.S., D.P.E., Springfield College

Wilson, Lucille B.

Dean, College of Health Professions

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M.N., Ed.D., University of Florida