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ABSTRACT

This study identifies the institutions of higher education which are the most productive in the number of degrees in mathematics, engineering, and science (MSE) awarded to minority students (African Americans, American Indians, and Hispanics). Using 1992-93 data, the study focused on the 17 states (and Puerto Rico) in which minority students represent at least 25 percent of high school graduates. These were: Alabama, Arizona, California, Delaware, Florida, Georgia, Illinois, Louisiana, Maryland, Mississippi, New Jersey, New Mexico, New York, North Carolina, South Carolina, Texas, and Virginia. An introduction lists the leading university producers of minority MSE baccalaureate degree recipients for each state and summarizes responses to a questionnaire which surveyed institutions concerning minority student recruitment, retention strategies, financial support, faculty role, and outreach activities. A chart rates states according to whether they achieve their "fair share" of minority MSE degree recipients. The main body of the report presents data on the top 10 institutions in each of the 17 states, including general data for the state as a whole as well as specific information on MSE minority-focused activities for each institution. A summary chapter notes types of programs and services frequently offered by these institutions and offers recommendations. The questionnaire is appended. (DB)

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# WEAVING THE WEB OF MSE SUCCESS FOR MINORITIES:

## TOP TEN COLLEGES AND UNIVERSITIES REPORT

June 1997

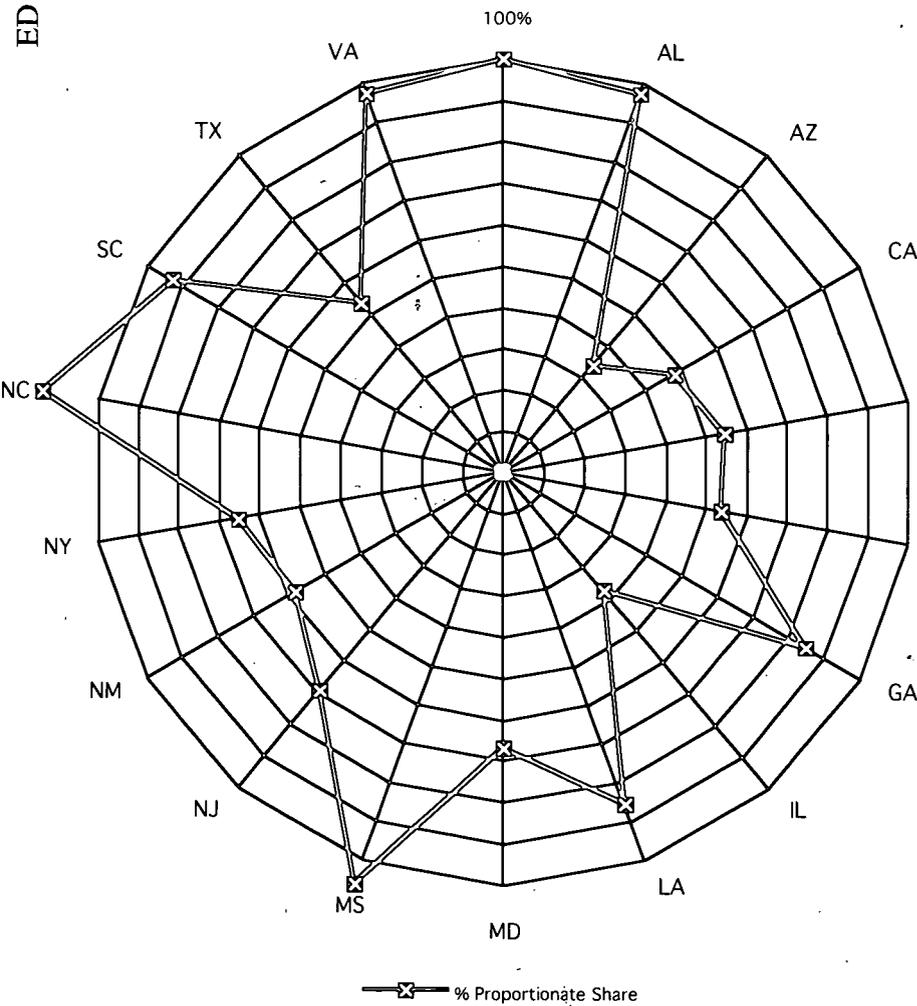
**Quality Education  
for Minorities  
(QEM) Network**

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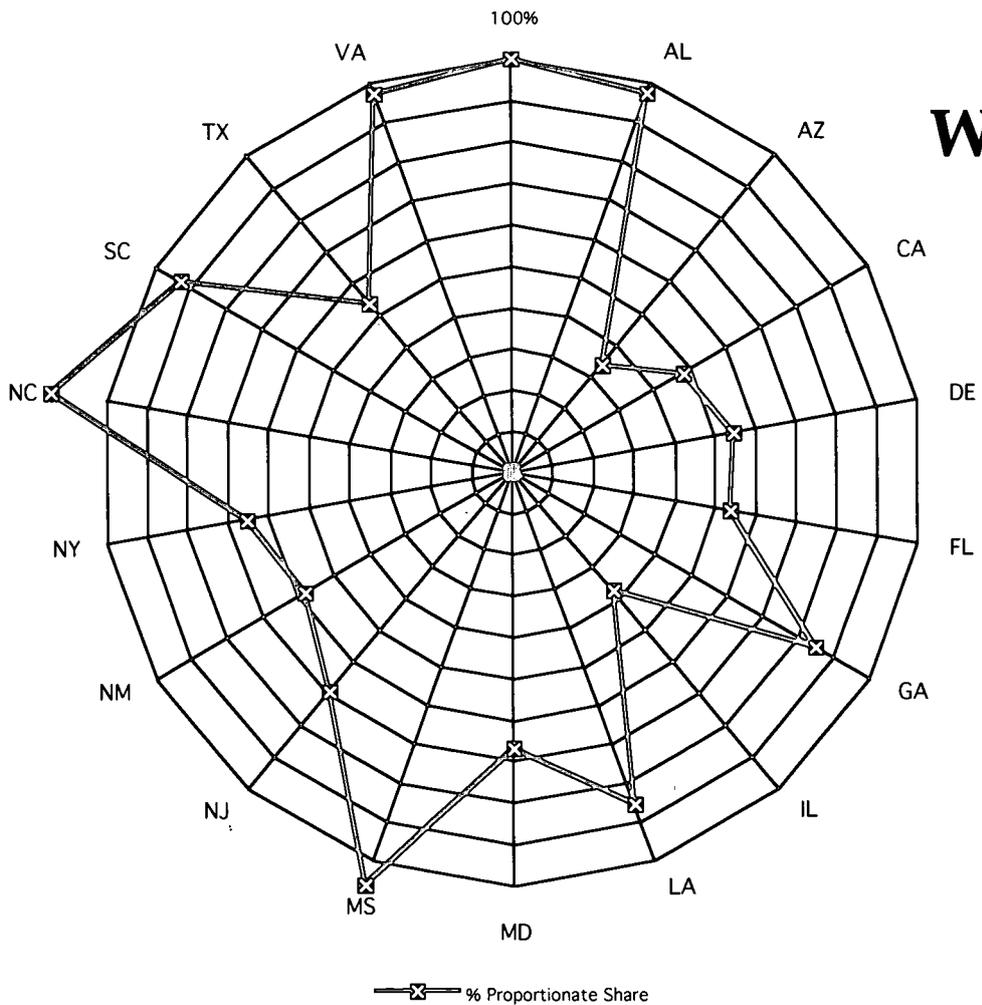


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# WEAVING THE WEB OF MSE SUCCESS FOR MINORITIES: TOP TEN COLLEGES AND UNIVERSITIES REPORT



June 1997

Quality Education  
for Minorities  
(QEM) Network

## NSF and QEM Numerical Minority MSE Degree Goals for the Year 2000

"The National Science Foundation's (NSF) mandate to ensure the vitality of the U.S. in the scientific and technical enterprise includes responsibility for the quality, quantity, composition, distribution, and effectiveness of the human resource base in science and engineering.... The Foundation has a particular interest in improving the quality of and access to Science, Engineering, and Mathematics (SEM) education for women, minorities, persons with disabilities, and other populations traditionally underrepresented in scientific and technical fields of study. For in the years ahead, these groups will comprise a growing proportion of the pool of U.S. students from which a highly skilled work force will be drawn. To help meet future demands for qualified scientists and engineers, our Nation must be more effective in attracting and advancing these underrepresented groups into SEM careers. **The National Science Foundation's SEM goals are to:**

- 1) Increase the number of underrepresented minorities in NSF-supported fields receiving B.S. degrees to over 50,000 annually by the year 2000; and**
- 2) Increase the minority Ph.D. degree attainment to over 2,000 by the year 2000.**

The Foundation's goals require comprehensive approaches to address the low level of recruitment, enrollment, and retention of minority students in [the] SEM education pipeline. Strong emphasis is placed on projects with cohesive, collaborative strategies and specific outcomes."<sup>1</sup>



"The vision of the Quality Education for Minorities (QEM) in Mathematics, Science, and Engineering (MSE) Network is to realize a significant increase in the participation of underrepresented minorities in all sectors of the Nation's mathematics, science, and engineering community to a level that is at least comparable to their numbers in the general population and at a pace consistent with the country's shifting demographics.... To realize this vision, the QEM/MSE Network, working cooperatively and coordinating its efforts with others committed to maintaining the Nation's leadership in the global economy, shall assume the leading role, nationally, in achieving the following QEM Network MSE goals:

- Quadruple the number of minority students receiving baccalaureate degrees in the physical and life sciences, and engineering annually to 68,000 by the year 2000**
- Triple the number of minorities receiving MSE doctorates annually to about 1,200 by the year 2000**
- Quintuple the number of minority college students newly qualified to teach who enter teaching each year to 30,000 by the year 2000, with at least 30 percent of this group being mathematics and science pre-college teachers**

<sup>1</sup> Human Resource Development for Minorities in Science and Engineering: Program Announcement and Guidelines, Division of Human Resources Development, Directorate for Education and Human Resources, National Science Foundation, NSF 92-111, page 1.

## ABOUT THIS DOCUMENT

This report is one of several products resulting from work completed under a technical assistance grant from the National Science Foundation (NSF) to the Quality Education for Minorities (QEM) Network (RED 9254377) that ended December 31, 1996. Through the Technical Assistance Project (TAP), QEM focused its efforts on the 19 states in which minority students represent at least 25 percent of high school graduates. Together, institutions in these 19 states enroll almost 80 percent of the minority students in higher education in the country.

In seeking to address the underrepresentation of minorities in mathematics, science, and engineering (MSE), it seems reasonable to focus on these states since minorities are concentrated in them, both in the state's general and higher education populations. It seems appropriate as well to ask these states to make their proportionate ("fair share") contributions to the national numerical goals for minority MSE baccalaureate and doctoral degree recipients established by the NSF for the year 2000.

A state's "fair share" of NSF's national goals is defined by its percentage of the total U.S. minority higher education population. For example, if higher education institutions in a state enroll 2.3 percent of all minority college students, then the state's proportionate contribution toward NSF's goals for minority baccalaureate and doctoral degree recipients is defined as 2.3 percent of 50,000 and of 2,000 respectively. Charts in the report reflect each state's "fair share" and its actual share based upon 1992-93 data.

Within the targeted states, it is also reasonable to ask which institutions are the most productive in the number of minority MSE degrees awarded. This document reports our findings for minority MSE baccalaureate and doctoral degrees by state and for minority MSE baccalaureate degrees by institution. The report focuses on the baccalaureate level, since no state reached 50 percent of its doctoral "fair share."

One finding at the baccalaureate level was that the social sciences accounted for almost 60 percent of the MSE degrees awarded in 1993 to minorities nationally (43 percent in the targeted states). To better understand the progress and the challenges faced in addressing the underrepresentation of minorities in MSE fields, we have chosen to rank the most productive institutions within each state according to the number of degrees awarded to minorities in mathematics, the physical sciences, and engineering, the MSE disciplines in which minorities are most severely underrepresented. Through a questionnaire to the "most productive" institutions, we sought information to help explain the success of these institutions relative to others within their states. This report reflects the responses received and identifies possible features that might help to explain their success.

Through TAP, QEM has learned first hand about strategies being implemented and about factors that facilitate as well as hinder progress in achieving the national goals. QEM contends that many of these strategies could form the basis of a state-wide action plan for achieving a state's "fair share" at both the baccalaureate and the doctoral levels.

With support from NSF, QEM is focusing its efforts in 1997 in the State of North Carolina, the leading state in its production of minority MSE degree recipients at both the baccalaureate and the doctoral levels. Working closely with a state-wide steering committee, QEM is providing technical assistance to enable the committee to develop an action plan that will allow the state to sustain its production at the baccalaureate level and to reach its proportionate share at the doctoral level.

We applaud the institutions identified in this report for their commitment to ensuring that minority students find a hospitable and supportive climate on their campuses and we challenge those states that are not at their "fair share" to re-double their efforts.

Shirley M. McBay, President, QEM Network and  
TAP Project Director

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# Introduction

## Report of Survey Results from Leading University Producers of Non-Asian Minority Mathematics, Science, and Engineering (MSE) Baccalaureate Degree Recipients

### Background

In May 1996, the Quality Education for Minorities (QEM) Network sent a questionnaire to provosts of the “top ten” institutions in 17 of the 19 states where minorities represent at least 25 percent of each state’s high school graduates. (See the Appendix for a copy of the questionnaire.) The “top ten” institutions in each state were those institutions that, in 1993, graduated the highest numbers of non-Asian minorities in mathematics, the physical sciences, and engineering (MPSE) at the baccalaureate level, relative to other institutions in their states. For some states, fewer than ten institutions are included in the state’s listing of top institutions, indicating that the state had fewer than ten baccalaureate-degree granting institutions or it did not have ten institutions producing at least one non-Asian minority degree recipient in mathematics, the physical sciences, or engineering.

The purpose of the questionnaire was to identify programs, services, or circumstances on the “top ten” campuses that might explain the relative success of these institutions in graduating non-Asian minorities. This report summarizes the information gathered through the questionnaire as well as through documents provided by the institutions, institutional websites, and various statistical reports.

A table showing the “top ten” institutions by state, along with the number of MSE bachelor’s degrees awarded to African Americans, American Indians, and Hispanics in 1992-1993, is included in each state’s report. Degree data on these institutions were obtained from the National Center for Education Statistics Integrated Postsecondary Education Data System (IPEDS), 1993.

The 19 states in which minorities represent at least 25 percent of each state’s high school graduates are Alabama, Alaska, Arizona, California, Delaware, Florida, Georgia, Hawaii, Illinois, Louisiana, Maryland, Mississippi, New Jersey, New Mexico, New York, North Carolina, South Carolina, Texas, and Virginia. These 19 states collectively enroll about 80 percent of the minority students in U.S. colleges and universities. It is for this reason that these states have been targeted by QEM for special focus and study, along with Washington, DC, and the Island of Puerto Rico.

## QEM Statewide MSE Conferences

Through a 26-conference series held between Spring 1994 and Fall 1996, QEM reached educators, education policymakers, parents, and students in 18 of the 19 targeted states as well as seven urban areas outside the 19 states. Only Hawaii was not involved due to budgetary constraints. The goal of the statewide conferences, conducted under a grant from the National Science Foundation (NSF), was to bring together stakeholders who could identify strategies for increasing the production of minority degree recipients in mathematics, science and engineering (MSE) fields within the state to a level commensurate with the state's minority college population. QEM contends that such within-state strategies can form the basis of a state action plan for ensuring that each state makes its proportionate contribution to goals established by the NSF regarding the number of minority MSE degree recipients by the year 2000.

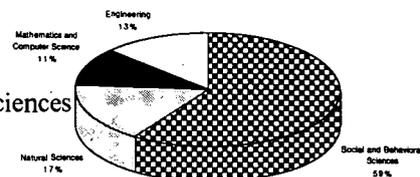
Conference participants included NSF Education and Human Resources (EHR) grantees, NSF/EHR program managers, university faculty and administrators, K-12 teachers, principals, superintendents, representatives from state departments of education, high school and college students, parents, school board members, state legislators, and representatives from business and industry, among others. Proceedings from these conferences are available as separate documents.

The numerical goals established by NSF are to increase, by the year 2000, the number of underrepresented minorities in NSF-supported fields receiving baccalaureate degrees in MSE fields to at least 50,000 annually and to increase the number of those receiving MSE doctoral degrees to at least 2,000 annually.

### Baccalaureate MSE Degree Recipients - Numbers and MSE Fields

In 1993, non-Asian minorities (African Americans, American Indians, and Hispanics) received 44,682 bachelor's degrees in mathematics, science, and engineering (MSE) fields or 12.2 percent of the total of 366,357 MSE bachelor's degrees awarded by U.S. higher education institutions (Women, Minorities, and Persons with Disabilities in Science and Engineering: 1996, pp. 171-172). These minority groups collectively represent about 23 percent of the U.S. population and are, therefore, underrepresented in the pool of MSE degree recipients. The 44,682 minorities who received MSE bachelor's degrees in 1993 were distributed among science and engineering disciplines as follows:

- 26,458 or 59.2 percent of the MSE degrees earned were in the social and behavioral sciences
- 7,630 or 17.1 percent of the MSE degrees earned were in the natural sciences
- 4,880 or 10.9 percent of the MSE degrees earned were in the mathematical and computer sciences
- 5,714 or 12.8 percent of the MSE degrees earned were in engineering



These data show that the greatest underrepresentation of minorities among MSE degree recipients occurs mainly in areas outside the social and behavioral sciences. However, it should be noted that non-Asian minority degree recipients are not overrepresented in any field, including the social sciences and education.

### Highly Productive Institutions of Minority MSE Baccalaureate Degree Recipients

Several institutions have had relative success in producing minority MSE baccalaureate degree recipients. For the purpose of this section of the report, an institution's level of productivity is determined by the number of minority MSE graduates\* it produces relative to the number of minority students it enrolls. More specifically, an institution in a given state has been designated as highly productive if: 1) it produces at least eight percent of the state's minority MSE bachelor's degree recipients;\* and 2) the institution's percentage of the state's MSE minority bachelor's degree recipients\* exceeds the institution's percentage of the state's minority student college enrollment. Using this definition, a listing of highly productive institutions in each state follows, based on the number of MSE degree recipients\* and of minority students enrolled in the institution in 1993:

#### Alabama

- Tuskegee University awarded 32.3 percent of the state's MSE degrees to minorities while enrolling 5.7 percent of the state's minority college students
- University of Alabama, Tuscaloosa awarded 8.7 percent of the state's MSE degrees to minorities while enrolling 4.1 percent of the state's minority college students
- Alabama A&M University awarded 8.5 percent of the state's MSE degrees to minorities while enrolling 7.7 percent of the state's minority college students

#### Arizona

- University of Arizona awarded 48.5 percent of the state's MSE degrees to minorities while enrolling 10.0 percent of the state's minority college students
- Arizona State University awarded 34.6 percent of the state's MSE degrees to minorities while enrolling 10.0 percent of the state's minority college students
- Northern Arizona University awarded 11.5 percent of the state's MSE degrees to minorities while enrolling 5.4 percent of the state's minority college students

\* individuals receiving degrees in mathematics, the physical sciences, and engineering — areas with the greatest non-Asian minority underrepresentation.

### California

- University of California, Los Angeles awarded 13.8 percent of the state's MSE degrees to minorities while enrolling 1.5 percent of the state's minority college students
- University of California, Berkeley awarded 11.4 percent of the state's MSE degrees to minorities while enrolling 1.1 percent of the state's minority college students

### Delaware

- University of Delaware awarded 72.0 percent of the state's MSE degrees to minorities while enrolling 20.5 percent of the state's minority college students

### Florida

- University of Florida awarded 12.5 percent of the state's MSE degrees to minorities while enrolling 3.2 percent of the state's minority college students
- University of Miami awarded 9.3 percent of the state's MSE degrees to minorities while enrolling 2.6 percent of the state's minority college students
- Florida International University awarded 22.2 percent of the state's MSE degrees to minorities while enrolling 9.8 percent of the state's minority college students
- Florida A&M University awarded 11.6 percent of the state's MSE degrees to minorities while enrolling 5.5 percent of the state's minority college students

### Georgia

- Spelman College awarded 15.8 percent of the state's MSE degrees to minorities while enrolling 2.4 percent of the state's minority college students
- Georgia Institute of Technology awarded 11.5 percent of the state's MSE degrees to minorities while enrolling 1.9 percent of the state's minority college students
- Morehouse College awarded 13.1 percent of the state's MSE degrees to minorities while enrolling 3.7 percent of the state's minority college students
- Clark Atlanta University awarded 8.3 percent of the state's MSE degrees to minorities while enrolling 6.3 percent of the state's minority college students

## Illinois

- University of Illinois at Urbana awarded 13.8 percent of the state's MSE degrees to minorities while enrolling 2.8 percent of the state's minority college students
- Southern Illinois University at Carbondale awarded 9.4 percent of the state's MSE degrees to minorities while enrolling 2.1 percent of the state's minority college students
- University of Illinois at Chicago awarded 9.1 percent of the state's MSE degrees to minorities while enrolling 3.9 percent of the state's minority college students

## Louisiana

- Xavier University awarded 19.0 percent of the state's MSE degrees to minorities while enrolling 5.4 percent of the state's minority college students
- Tulane University awarded 8.1 percent of the state's MSE degrees to minorities while enrolling 2.6 percent of the state's minority college students
- Louisiana State University awarded 8.1 percent of the state's MSE degrees to minorities while enrolling 4.7 percent of the state's minority college students
- Southern University, Baton Rouge awarded 22.7 percent of the state's MSE degrees to minorities while enrolling 16.0 percent of the state's minority college students
- Grambling State University awarded 13.7 percent of the state's MSE degrees to minorities while enrolling 12.5 percent of the state's minority college students

## Maryland

- United States Naval Academy awarded 15.3 percent of the state's MSE degrees to minorities while enrolling 1.0 percent of the state's minority college students
- University of Maryland, College Park awarded 26.2 percent of the state's MSE degrees to minorities while enrolling 7.7 percent of the state's minority college students
- Morgan State University awarded 16.9 percent of the state's MSE degrees to minorities while enrolling 8.6 percent of the state's minority college students

## Mississippi

- Tougaloo College awarded 11.3 percent of the state's MSE degrees to minorities while enrolling 3.1 percent of the state's minority college students
- University of Southern Mississippi awarded 15.7 percent of the state's MSE degrees to minorities, while enrolling 6.1 of the state's minority college students
- Alcorn State University awarded 18.7 percent of the state's MSE degrees to minorities while enrolling 7.1 percent of the state's minority college students
- Mississippi State University awarded 10.2 percent of the state's MSE degrees to minorities while enrolling 6.0 percent of the state's minority college students
- Mississippi Valley State University awarded 9.1 percent of the state's MSE degrees to minorities while enrolling 6.0 percent of the state's minority college students
- Jackson State University awarded 22.8 percent of the state's MSE degrees to minorities while enrolling 16.3 percent of the state's minority college students

## New Jersey

- Princeton University awarded 8.4 percent of the state's MSE degrees to minorities while enrolling 1.0 percent of the state's minority college students
- New Jersey Institute of Technology awarded 8.4 percent of the state's MSE degrees to minorities while enrolling 2.2 percent of the state's minority college students
- Rutgers University, New Brunswick awarded 27.1 percent of the state's MSE degrees to minorities while enrolling 7.3 percent of the state's minority college students

## New Mexico

- New Mexico Highlands University awarded 12.0 percent of the state's MSE degrees to minorities while enrolling 4.9 percent of the state's minority college students
- New Mexico State University - Main Campus awarded 33.1 percent of the state's MSE degrees to minorities while enrolling 14.3 percent of the state's minority college students
- University of New Mexico - Main Campus awarded 37.7 percent of the state's MSE degrees to minorities while enrolling 17.9 percent of the state's minority college students

### New York

- City College of the City University of New York awarded 8.5 percent of the state's MSE degrees to minorities while enrolling 5.4 percent of the state's minority college students

### North Carolina

- North Carolina State University at Raleigh awarded 9.8 percent of the state's MSE degrees to minorities while enrolling 3.7 percent of the state's minority college students
- North Carolina Central University awarded 13.2 percent of the state's MSE degrees to minorities while enrolling 6.0 percent of the state's minority college students
- North Carolina A&T State University awarded 14.9 percent of the state's MSE degrees to minorities while enrolling 8.8 percent of the state's minority college students

### South Carolina

- Morris College awarded 8.6 percent of the state's MSE degrees to minorities while enrolling 2.2 percent of the state's minority college students
- Clemson University awarded 9.9 percent of the state's MSE degrees to minorities while enrolling 3.6 percent of the state's minority college students
- University of South Carolina at Columbia awarded 17.6 percent of the state's MSE degrees to minorities while enrolling 10.8 percent of the state's minority college students
- South Carolina State University awarded 15.6 percent of the state's MSE degrees to minorities while enrolling 11.0 percent of the state's minority college students

### Texas

- Texas A&M University awarded 10.7 percent of the state's MSE degrees to minorities while enrolling 1.8 percent of the state's minority college students
- Prairie View A&M University awarded 8.3 percent of the state's MSE degrees to minorities while enrolling 1.8 percent of the state's minority college students
- University of Texas at Austin awarded 10.5 percent of the state's MSE degrees to minorities while enrolling 2.8 percent of the state's minority college students

## Virginia

- Hampton University awarded 17.3 percent of the state's MSE degrees to minorities while enrolling 7.8 percent of the state's minority college students
- Norfolk State University awarded 14.1 percent of the state's MSE degrees to minorities while enrolling 10.7 percent of the state's minority college students
- University of Virginia - Main Campus awarded 12.4 percent of the state's MSE degrees to minorities while enrolling 3.4 percent of the state's minority college students

### **Producers of Minority Bachelor's Degree Recipients Mathematics, Physical Sciences, and Engineering (MPSE) (Areas of Greatest Underrepresentation)**

**Table I**  
MPSE Bachelor's Degrees Awarded to African Americans  
by State, and by "Top" HBCUs Within the State, 1993

Targeted States/HBCUs Sites	MPSE Degrees to African Americans	MPSE Degrees Awarded by HBCUs	Proportion of Degrees from HBCUs
Alabama	491	221	45.0%
Delaware	36	11	30.6%
Florida	309	79	25.6%
Georgia	565	164	29.0%
Louisiana	524	238	45.4%
Maryland	269	73	27.1%
Mississippi	353	142	40.2%
North Carolina	588	232	39.5%
South Carolina	285	77	27.0%
Texas	490	192	39.2%
Virginia	402	141	35.1%
Total	4,312	1,570	36.4%

The disproportionate number of minority MSE degree recipients produced by Historically Black Colleges and Universities (HBCUs) and other predominantly Black colleges and universities continues to reflect the historical contributions of these institutions to the education of African Americans. In 11 of the 19 targeted states, HBCUs accounted for more than one-fourth of all bachelor's degrees awarded in mathematics, the physical sciences, and engineering (MPSE) to African Americans statewide. As reflected in Table I, those institutions awarded 1,570 MPSE bachelor's degrees to African Americans or 36.4 percent of the 4,312 MPSE degrees earned by African Americans at all institutions in the 11 states listed.

Contributions of individual "top ten" HBCUs to the production of African Americans with MPSE bachelor's degrees in the 11 states cited are shown in Table II.

**Table II**  
**Top HBCUs in Conferring MPSE Bachelor's Degrees to African Americans in 1993**

State	Institution	Number of MPSE Bachelor's Degrees to African Americans in 1993
Alabama	Tuskegee University	154
	Alabama A&M University	31
	Alabama State University	18
	Talladega College	13
	Oakwood	5
	<b>Total</b>	<b>221</b>
Delaware	Delaware State University	11
	<b>Total</b>	<b>11</b>
Florida	Florida A&M University	79
	<b>Total</b>	<b>79</b>
Georgia	Spelman College	56
	Morehouse College	34
	Savannah State College	33
	Clark Atlanta University	28
	Fort Valley State College	13
	<b>Total</b>	<b>164</b>
Louisiana	Southern University, Baton Rouge	121
	Xavier University	43
	Grambling State University	37
	Southern University, New Orleans	19
	Dillard University	18
	<b>Total</b>	<b>238</b>
Maryland	Morgan State University	57
	Bowie State University	7
	University of Maryland, Eastern Shore	5
	Coppin State College	4
	<b>Total</b>	<b>73</b>
Mississippi	Jackson State University	52
	Alcorn State University	45
	Mississippi Valley State University	22
	Tougaloo College	16
	Rust College	7
	<b>Total</b>	<b>142</b>
North Carolina	North Carolina A&T State University	174
	North Carolina Central University	24
	Elizabeth City State University	12
	St. Augustine's College	8
	Johnson C. Smith University	7
	Bennett College	7
	<b>Total</b>	<b>232</b>
South Carolina	South Carolina State University	55
	Morris College	9
	Benedict College	8
	Clafin College	5
	<b>Total</b>	<b>77</b>
Texas	Prairie View A&M University	160
	Texas Southern University	32
	<b>Total</b>	<b>192</b>
Virginia	Hampton University	61
	Norfolk State University	58
	Virginia Union University	12
	Virginia State University	10
	<b>Total</b>	<b>141</b>

## The Survey Questionnaire and General Responses

QEM distributed questionnaires to 160 institutions in the 17 targeted states and received 104 responses (some by telephone, others by fax or mail) for a response rate of 65 percent. For three states (Delaware, Florida, and New Mexico) the response rate was 100 percent.

In responding to the questionnaire, several institutions provided detailed information about their programs, services, and infrastructures that support the participation of minority students in the pursuit of MSE-related careers, while others did not. Thus, there is unevenness in the length of the individual institutional summaries.

Key institutional responses to the questionnaire are summarized on the following pages.

**Question:** What strategies are used by the institutions to recruit minority students into MSE majors?

**Responses:**

- Target feeder schools and community colleges with high minority enrollments
- Conduct summer bridge programs and summer camps in mathematics, science, and engineering for minority high school students
- Have designated staff members who are culturally sensitive to particular minority communities recruit in these communities
- Sponsor residential and/or non-residential MSE enrichment and research programs for high school students
- Use partnerships and coalitions that involve, for example, the NSF-funded Alliance for Minority Participation (AMP) and Comprehensive Regional Centers for Minorities (CRCM) as well as business and industry to leverage the impact of minority recruitment efforts
- Sponsor science fairs and tutoring/mentoring programs for minority pre-college students
- Contact minority students through the clergy, churches, and community organizations

**Question:** What retention strategies are in place to assist minority students in persisting through graduation in MSE disciplines?

**Responses:**

- Intensive academic enrichment activities in MSE disciplines—for example, the Emerging Scholars Program—that employs a collaborative learning model with emphasis on the importance of working in teams and study groups
- Comprehensive services for MSE students to help ensure that they remain in MSE disciplines through graduation, including financial support services and academic support structures such as mentoring, tutoring, and easy access to faculty
- Special faculty and staff retention teams composed of individuals who are sensitive to the needs of students and who attempt to address these needs by a team approach

**Question:** What kinds of institutional or departmental support structures are in place to assist students on a regular basis in coping with academic expectations and requirements?

**Responses:**

- A broad range of counseling and mentoring services, especially for new students
- Special academic learning and student assistance centers to help students in joining study groups and identifying tutors and mentors as needed
- MSE-oriented campus organizations and local chapters of national MSE professional organizations that serve as vehicles for career information and possible sources of role models for minority students
- A system to ensure that faculty members are accessible to students outside of regular classroom or office hours
- Student cultural and social organizations that help minority students adjust successfully to the campus environment

**Question:** What types of scholarships or other forms of financial support are available to students and how do these affect minority students?

**Responses:**

- Scholarships and stipends from federally funded programs such as the NSF's Alliance for Minority Participation (AMP) Program, the NIH's Minority Access to Research Careers (MARC) Program, and the NIH's Minority Biomedical Research Support (MBRS) Program
- Full-time internships to retain minorities in engineering disciplines that are funded by leveraging public and private funds available to the university
- Federally insured loans, grants, state tuition waivers (in some states) for honor students, and institutional scholarships
- Payment for services as graders and tutors in mathematics, science, or engineering courses

**Question:** Are there specific faculty members who have experience, or a special interest, in supporting the successful matriculation of minority students as majors and graduates in MSE fields?

**Response:**

Most of the institutions identified a number of MSE faculty members who have a special interest in, or reputation for, working with minority students outside of class and beyond their regular office hours.

**Question:** What formal mechanisms are in place to provide information, advice, or counseling to MSE students regarding summer, career, and graduate school opportunities?

**Responses:**

All of the institutions reported having formal mechanisms for providing information, advice, and counseling to students on summer jobs, internships, and career and graduate school opportunities. In some instances, institutions collaborated with science and technology-based corporations to identify career opportunities for students.

**Question:** Is the institution involved in specific minority or community-focused outreach activities?

**Responses:**

- Working with surrounding communities and reservations to eliminate barriers to academic achievement through programs such as Mathematics, Engineering, and Science Achievement (MESA) and the NSF-supported Rural Systemic Initiative
- Having university faculty and staff visit middle schools, high schools, and community colleges
- Planning and participating in special community activities during National Science Week and/or National Engineering Week
- Supporting science literacy activities for adults and for family mathematics and science activities
- Sponsoring an annual science fair for local schools
- Having college students provide tutoring services to local elementary, junior high, and high school students

**Question:** What are the institution's plans with respect to recruitment, retention, and graduation of minority students in MSE disciplines?

**Responses:**

- Provide increased financial support for high achieving minority students transferring from community colleges
- Initiate an "adopt-a-school" program at a predominantly minority school and have university MSE faculty visit the school on a regular basis to teach and consult
- Continue partnerships of colleges, MSE departments, and special programs to engage historically underrepresented minority students in the excitement of mathematics, science, and engineering and help them excel in these fields
- Provide undergraduate students with significant research experiences under the aegis of an AMP/work-study partnership
- Expand participation in pre-college programs

## **Individual Institutional Descriptions and Responses**

A brief description of the institutions, grouped by state, and their responses to the questionnaire is given in the sections that follow. Home pages of the institutions were used to obtain general information, including brief institutional histories and degree offerings. Other information was obtained from the questionnaire and supplementary materials provided by several respondents.

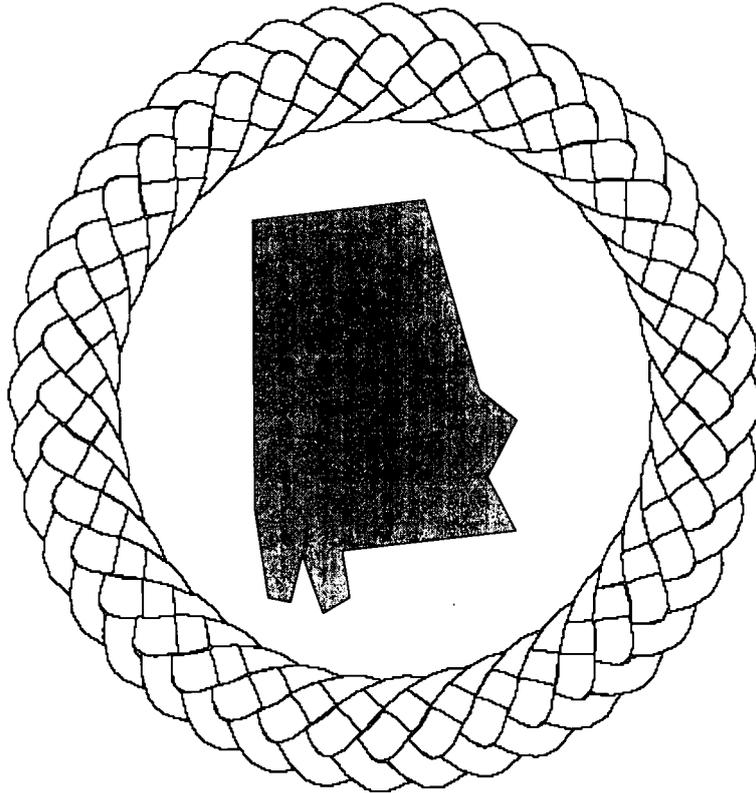
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*Proportionate ("Fair") Share and Actual Contributions to NSF's Goals for  
Minority MSE Degree Recipients\* in Targeted States,\*\* 1992-93*

STATE	B.S. FAIR SHARE	B.S. ACTUAL	% OF FAIR SHARE	Ph.D. FAIR SHARE	Ph.D. ACTUAL	% OF FAIR SHARE
AL	800	779	97.4%	32	1	3.1%
AZ	1,050	355	33.8%	42	9	21.4%
CA	9,650	4,636	48.0%	386	85	22.0%
DE	150	82	54.7%	6	2	33.3%
FL	3,000	1,616	53.9%	120	25	20.8%
GA	1,400	1,187	84.8%	56	23	41.1%
IL	3,050	1,148	37.6%	122	24	19.7%
LA	1,100	931	84.6%	44	7	15.9%
MD	1,100	734	66.7%	44	14	31.8%
MS	600	636	106.0%	24	3	12.5%
NJ	1,300	898	69.1%	52	19	36.5%
NM	600	350	58.3%	24	4	16.7%
NY	4,600	2,997	65.2%	184	50	27.2%
NC	1,300	1,480	113.8%	52	24	46.2%
SC	700	649	92.7%	28	4	14.3%
TX	5,300	2,833	53.5%	212	29	13.7%
VA	1,200	1,166	97.2%	48	16	33.3%
<b>TOTAL</b>	<b>36,900</b>	<b>22,477</b>	<b>60.9%</b>	<b>1,476</b>	<b>339</b>	<b>23.0%</b>
PR	NA	2,420	NA	NA	8	NA

- \* Data include social science degrees in keeping with NSF's definition of science. Excluding social science degrees reveals significantly lower contributions by each state.
- \*\* State conferences were not held in Alaska or Hawaii. Data to be collected and analyzed.

# Alabama



# ALABAMA

"TOP TEN" INSTITUTIONS IN NON-ASIAN MINORITY MSE BACCALAUREATE DEGREES AWARDED, 1992-93  
(Ranked by number of degrees awarded in Mathematics, the Physical Sciences, and Engineering)

Institution	Mathematics, Physical Sciences, and Engineering	Life Sciences	Social Sciences	Total MSE Baccalaureate Degrees Awarded
Tuskegee University	157	39	56	252
The University of Alabama, Tuscaloosa	43	8	17	68
Alabama A&M University	31	14	21	66
Auburn University-Main Campus	31	10	13	54
Alabama State University	18	13	10	41
Talladega College	13	15	0	28
University of Alabama at Birmingham	12	14	14	40
University of Alabama at Huntsville	9	0	1	10
Athens State College	6	0	1	7
Oakwood College	5	21	0	26

Source: Unpublished data from the National Center for Education Statistics, U.S. Department of Education

Notes: (1) Some states may not have 10 institutions listed because (a) there were fewer than 10 institutions in the state or (b) fewer than 10 institutions awarded degrees in mathematics, the physical sciences, and engineering to non-Asian minorities in 1992-93.

(2) If institutions are ranked by the total number of MSE degrees awarded, the "top ten" list of institutions may vary.

## ALABAMA

### Introduction

Alabama, with a 1990 population of approximately 4 million, ranks 22nd in the nation in size of population, is home to approximately 1.7 percent of non-Asian minorities in the nation, and enrolls 1.6 percent of the nation's non-Asian minorities at the college level.\* Among the states chosen for QEM's survey<sup>1</sup>, Alabama ranks ninth in terms of African American college enrollment.<sup>2</sup>

Table AL-I depicts the population of Alabama by race/ethnicity. In 1990, African Americans, the largest minority group in the state, represented 25.3 percent of the total population.

**Table AL-I**  
Alabama Population by Race/Ethnicity  
(in thousands)

1990	Total	African Americans	American Indians	Asians	Hispanics	Whites	Non-Asian Minority Population
Alabama Total Population	4,041	1,021	17	22	25	2,956	1,063
% of Alabama Population	100.0	25.3	0.4	0.5	0.6	73.2	26.3

Source: 1990 U.S. Census Data.

\* Quality Education for Minorities (QEM) Network, Washington DC, 1996. "Statistical Profile of Alabama."

## MSE Degrees in Alabama

In 1992-1993, 779 MSE baccalaureate degrees were earned by non-Asian minorities in Alabama. This total is close to the 800 projected as Alabama's "fair share" of NSF's goal (see Table AL-II). That same year, however, only one non-Asian minority received a doctorate in an MSE field, which represented just 3.1 percent of the state's fair share.

**Table AL-II**  
MSE Degrees Awarded in Alabama by Race/Ethnicity

1992-1993	Bachelor's	Master's	Doctorate
African Americans	735	25	1
American Indians	13	1	0
Asians	58	15	3
Hispanics	31	13	0
Whites	3,129	419	72
TOTAL	3,966	473	76
Total Non-Asian Minorities	779	39	1
% of Degrees Awarded to Non-Asian Minorities	19.6	8.2	1.3

Source: Unpublished data from U.S. Department of Education,  
National Center for Education Statistics.

## Alabama Institutional Responses

Four of the 10 higher education institutions in Alabama that received survey questionnaires from QEM responded: Alabama State University, Tuskegee University, University of Alabama at Birmingham, and University of Alabama at Tuscaloosa. Summary information on these universities and their survey responses follow.

**Alabama State University**  
**Dr. Roosevelt Steptoe, Vice President for Academic Affairs**  
**915 South Jackson Street**  
**Montgomery, AL 36101**  
**Enrollment: 5,416**  
**Highest Offering: Master's**

**tel: 334/293-4200**  
**fax: 334/240-6856**  
**homepage: <http://www/alsu.edu>**

### About the Institution

Alabama State University (ASU) was founded in 1866 as the Lincoln Normal School, a private institution for African Americans. Since then, the University has endured racial opposition and surmounted seemingly impossible odds. During the civil rights movement, ASU (then called Alabama State College) was heavily involved in the famous Montgomery Bus Boycott of 1955 and the direct-action campaigns. Counteraction by state authorities and others resulted in extreme hardships for the College and the loss of its accreditation between 1961 and 1966. The original student body of fewer than 100 students has grown to more than 5,000, and the faculty has expanded from three members to approximately 320. In its 130-year history, ASU has conferred degrees on more than 33,700 students.

### Support Services and College Environment

Recruitment programs are designed to generate interest in mathematics, science, and engineering, and to influence high school students to choose Alabama State University. Recruiters often visit predominantly Black high schools to inform students about ASU's programs, and high school students also visit the ASU campus. The University has mobile science vans that have equipment to provide pre-college students with hands-on science experience.

The University's Counseling Center offers a pre-college orientation and registration period that allows new students and their parents to participate in three days of planned activities, including meetings with faculty, administrators, staff, and students. Also, ASU interacts with a large number of community colleges to facilitate student transfers without significant loss of credits.

The majority of ASU students receive some form of financial aid. For example, some students receive pay for tutoring their peers while others take advantage of programs that provide summer and weekend stipends as well as supplies and materials. Scholarships are awarded based upon ACT/SAT scores and grades. Academic and Presidential Scholarships are funded by ASU to recognize outstanding high school seniors who are considering attending the University.

Alabama State requires all faculty members to serve as advisors and matches each student with an advisor. The interaction between students and faculty is a cornerstone of the University's retention strategy. Special emphasis is placed on supporting and retaining students with academic deficiencies. One of the University's key efforts is to support programs, such as the Bridge Program, that lead to student interaction with faculty on research projects. In addition to faculty relationships, students may attend voluntary study groups and laboratory sessions.

ASU maintains a strong co-op program with the University of Alabama, Birmingham (UAB) and with the Engineering Department at Auburn University (AU). The program facilitates student transfers to UAB or AU from a mathematics or engineering curriculum at Alabama State.

Alabama State is currently improving its science and health course offerings with a focus on occupational health and physical therapy. As these improvements are made, admissions requirements to these fields will become very strict, rivaling those of medical schools.

Community outreach activities have included providing the local community with health care information.

**Tuskegee University**  
**Dr. William L. Lester, Provost**  
**Tuskegee, AL 36088**  
**Enrollment: 3,229**  
**Highest Offering: Doctorate**

**tel: 205/727-8011**  
**fax: 205/727-5276**  
**homepage: <http://www.tusk.edu>**

### **About the Institution**

Tuskegee University, formerly Tuskegee Institute, was founded in 1881 by Booker T. Washington. Tuskegee University has a long history of creating academic support systems that ensure the retention and graduation of African Americans.

### **Support Services and College Environment**

Tuskegee's recruitment and retention efforts fall into three categories: 1) externally-funded residential and commuter pre-college programs; 2) accessible faculty who are willing to work with students; and 3) a supportive learning environment.

Pre-college programs at the University are an effective strategy for recruiting students who are academically ready for a rigorous four-year mathematics, science, or engineering curriculum. At the same time, these programs increase mathematics and science literacy in the community and have a visible presence in schools, neighborhoods, and other community-based institutions. The programs include the following:

- **Freshman Enrichment I and II** are six-week, non-residential programs for students who have completed the eighth through tenth grades. Students receive instruction in mathematics, biology, chemistry, physics, engineering graphics, and computer programming. Weekly guest lectures and computer programming opportunities further enrich the academic activities. The weekly guest lectures generally are given by alumni and focus on opportunities in engineering.
- **Research Apprenticeships for Disadvantaged High Schoolers (RADHS)** is a residential program for students who have completed the 11th grade and have high PSAT and PACT scores. This program provides hands-on



experience in research laboratories and the opportunity to experience college life under the guidance of mentors and tutors.

- **Minority Introduction to Engineering (MITE)** is a one-week, residential program for students who have completed the 11th grade. Students participate in laboratory demonstrations offered by engineering faculty, staff, students, and alumni. MITE organizers provide lectures on admissions, financial aid, cooperative education, and Army and Air Force ROTC as well as conduct field trips.
- **Saturday Academy** classroom sessions are held on Saturday mornings throughout the school year for students in the 8th through 12th grades. Students from local high schools are challenged to strengthen their backgrounds in mathematics, physics, chemistry, biology, and physical science.
- **Environmental Science Training for Retention and Excellence in Science (ENTRES)** is an eight-week, science-oriented residential program for students who have completed high school. This program is coordinated by the School of Agriculture and Home Economics.
- **Enrichment and Self-Actualizing Learning Program (ESALP)** is an eight-week, residential program for students interested in nursing. This is an enrichment program for matriculating freshmen at Tuskegee University.
- **Freshman Accelerated Start-up Training for Retention in the Engineering Curricula (FASTREC)** is an eight-week, residential program for matriculating freshmen at Tuskegee who are interested in engineering.
- **Freshman Mathematics and Computer Science Program (FMACS)** is an eight-week program that focuses on students who have completed the 12th grade, have high SAT or ACT scores, and are interested in majoring in mathematics or computer science. Students pursue an intensive program of study in mathematics, computer science, and freshman orientation, and they can earn up to seven semester credit hours toward the bachelor of science degree. Participants attend weekly guest lectures and seminars, and go on field trips.

Tuskegee offers several forms of academic and financial support. High achievement scholarships are sponsored by various companies and agencies. Students in science and engineering may work on research projects or act as peer tutors during the academic year as well as the summer.

Individual departments and the Office of Student Services collaborate to provide tutorials and other support sessions for students who request such services. The Office of Career Development and Placement Services assists

students in obtaining information, advice, and counseling on summer, career, and/or graduate school opportunities. Each fall, this office sponsors a career fair in which representatives of industry and graduate schools visit the campus to talk with students about various opportunities.

Every student at Tuskegee University has a faculty advisor. In addition, faculty members who have special interests in working with students outside of the classroom and/or regular office hours are available.

Student study groups are recognized as an important retention strategy. Tuskegee has instituted both formal and informal groups as well as departmental and living-group-based study groups. Study groups meet in conjunction with specific courses in mathematics, engineering, computer science, physics, chemistry, and biology. Students also have access to Trio Program Tutorials as well as to tutorials and other support sessions that are funded through Title III programs.

Students are encouraged to join honor societies. In addition, several mathematics, science, and engineering-oriented student organizations and chapters of national MSE organizations provide pre-professional and academic support: the National Society of Black Engineers, the Society of Women Engineers, the American Institute of Aeronautics and Astronautics, the American Institute of Chemical Engineers, and the Association of Computing Machinery.

**University of Alabama at Birmingham**  
**Dr. William A. Sibley, Vice President for Academic Affairs**  
**UAB Street**  
**Birmingham, AL 35294**  
**Enrollment: 15,502**  
**Highest Offering: Doctorate**

tel: 205/934-4011  
 fax: N/A  
 homepage: <http://www.uab.edu>

### About the Institution

The University of Alabama at Birmingham (UAB) has grown from a small extension service, founded in 1945, to a nationally-ranked teaching and research center, offering a full-range of academic programs.

UAB is the lead institution for the Alabama Alliance for Minority Participation (AMP) which consists of eight Historically Black Colleges and Universities, three additional universities, and several business partners. AMP has the single goal of significantly increasing the number of minorities receiving bachelor's degrees in mathematics, science, and engineering in Alabama and portions of Mississippi. Alliance programs include AMP Scholars as well as a Summer Research Internship Program, a Student Summer Conference, Science Day, a Mentoring Program, Drop-in Centers, a Bridge Program, and Faculty Conferences. The number of minority MSE majors and graduates has increased dramatically as a result of the AMP.

### **Support Services and College Environment**

UAB's administration is dedicated to retaining students once they start their programs of study. The University has a full-time staff member whose specific responsibilities are to recruit and retain minority students. On-campus pre-college programs, such as the AMP Summer Bridge Program, target 12th graders, and are geared to stimulate interest in UAB. The Bridge Program is a six-week, residential, externally funded program. In addition, UAB has a student exchange agreement with Miles College, a predominantly minority institution located in Birmingham.

A state-funded \$500,000 University program provides scholarship support to both undergraduate and graduate students. A variety of other academic and summer internship programs support undergraduate research, including the AMP Program.

Students may take advantage of a variety of academic support mechanisms, including formal and informal student study groups, tutorials, and other academic support sessions in mathematics and science. Student Services, the AMP Drop-in Center, and the National Society of Black Engineers also offer tutorials and other academic support sessions. The UAB Office of Minority Recruitment and Retention provides counseling for minority students as does the Black Graduate Student Association.

UAB intends to continue its efforts to attract, retain, and graduate increasing numbers of minority students, particularly in MSE fields.

**The University of Alabama at Tuscaloosa**  
**Dr. James G. Taaffe, Provost and Academic Vice President**  
**Tuscaloosa, AL 35487**  
**Enrollment: 19,046**  
**Highest Offering: Doctorate**

**tel: 205/348-6010**  
**fax: 205/348-6544**  
**homepage: <http://www.sa.edu>**

### **About the Institution**

The University of Alabama at Tuscaloosa (UA), founded in 1831, is the oldest public university in the state. Offering 275 degrees in more than 150 fields of study, the University provides its students a wide range of choices and courses of study at the bachelor's, master's, specialist, and doctoral levels.

Pre-college recruitment efforts include a minorities in engineering program. Although the University does not specifically target minorities for recruiting purposes, it does recruit top notch students, including minority students, from several high schools in Birmingham, Mobile, Montgomery, and Tuscaloosa.

### **Support Services and College Environment**

UA offers a variety of financial support packages to its students. National Achievement and National Hispanic finalists receive substantial financial support packages. Also, presidential scholarships are awarded to outstanding students. Most UA students receive some form of financial aid.

A limited number of research opportunities are available at the undergraduate level. In addition, mentoring program exists in the College of Arts and Sciences. This honors program accommodates 20 students per year, linking them with faculty members involved in computer-based projects. Generally, nine percent of the freshman class qualify for the honors program. Tutoring is offered by the Center for Teaching and Learning and by the Mathematics Department. Although departmental advising, meetings, and/or extracurricular activities for students are mostly informal, students have open access to most faculty members.

Student retention efforts include a summer orientation program, freshman programs, and orientation-type courses. The University plans to expand services and programs to attract, retain, and graduate larger numbers of minority students, particularly in MSE fields.

## FEATURES\* OF SUPPORT SERVICES AND COLLEGE ENVIRONMENT

(Institutions are listed in rank order according to the number of MPSE Degrees Awarded to Minority Students in 1992-93)

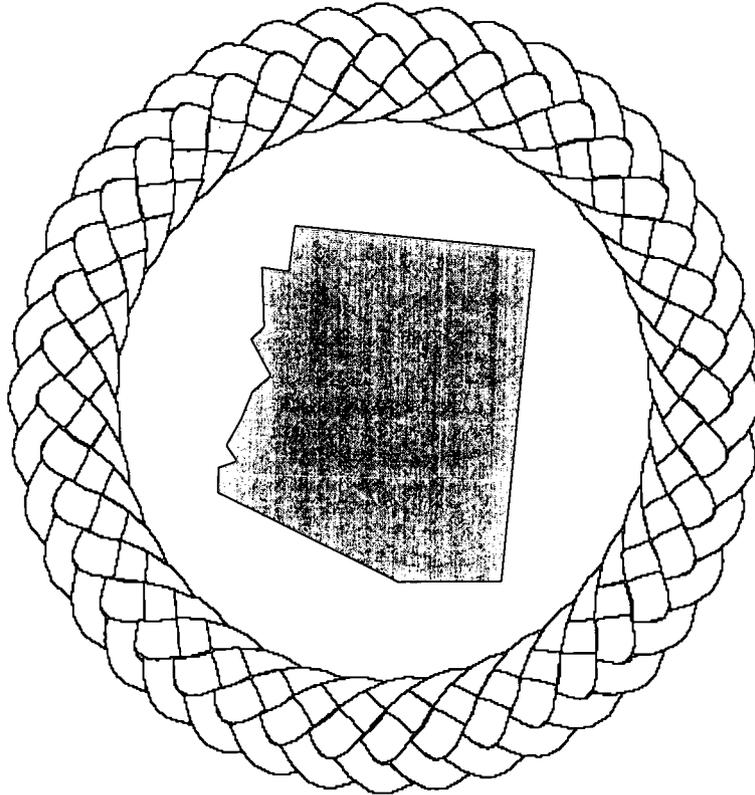
### ALABAMA

INSTITUTION	COMMUNITY OUT-REACH	SPECIAL RECRUITMENT	SPECIAL SCHOLARSHIPS	SPECIAL OFFICE	SPECIAL COUNSELORS	ACCESSIBLE FACULTY	SUMMER BRIDGE	SPECIAL TUTORING	STUDY GROUPS	MSE STUDENT ORGANIZATIONS	ONE ON ONE ADVISING	PEER TUTORS	OTHER
Tuskegee University	√	√	√		√	√	√	√	√	√	√		
The University of Alabama, Tuscaloosa	√		√			√	√	√					Undergraduate Research; Honors Program; Mentors Program
Alabama A&M University**													
Auburn** University- Main Campus													
Alabama State University	√	√	√		√		√	√	√		√	√	
Talladega College**													
University of Alabama at Birmingham		√	√	√	√	√	√	√	√	√		√	Internships; Undergraduate Research; Formal MSE Collaborative
University of Alabama at Huntsville**													
Athens State College**													
Oakwood College**													

\* - Based upon information provided in institutional responses to QEM survey

\*\* - Did not return survey

# Arizona



# ARIZONA

"TOP TEN" INSTITUTIONS IN NON-ASIAN MINORITY MSE BACCALAUREATE DEGREES AWARDED, 1992-93  
 (Ranked by number of degrees awarded in Mathematics, the Physical Sciences, and Engineering)

Institution	Mathematics, Physical Sciences, and Engineering	Life Sciences	Social Sciences	Total MSE Baccalaureate Degrees Awarded
Arizona State University	46	6	71	123
University of Arizona	44	21	107	172
Northern Arizona University	23	6	12	41
DeVry Institute of Technology	10	0	0	10
Grand Canyon University	1	0	1	2

Source: Unpublished data from the National Center for Education Statistics, U.S. Department of Education

Notes: (1) Some states may not have 10 institutions listed because (a) there were fewer than 10 institutions in the state or (b) fewer than 10 institutions awarded degrees in mathematics, the physical sciences, and engineering to non-Asian minorities in 1992-93.

(2) If institutions are ranked by the total number of MSE degrees awarded, the "top ten" list of institutions may vary.

## ARIZONA

### Introduction

Arizona, with a 1990 population of approximately 3.7 million, ranks 23rd in the nation in size of population and 18th in terms of higher education enrollment. It is home to approximately 1.8 percent of the nation's non-Asian minorities and enrolls 2.1 percent of non-Asian minority college students.\* Among the states chosen for QEM's survey,<sup>1</sup> Arizona ranks third in terms of American Indian enrollment and sixth with respect to Hispanic enrollment.<sup>2</sup> Table AZ-I shows the population of Arizona by race/ethnicity. Non-Asian minorities comprise 27.4 percent of the population of Arizona. Of this group, 68.6 percent are Hispanics, 20.3 percent American Indians, and 11.1 percent are African Americans.

**Table AZ-I**  
Arizona Population by Race/Ethnicity  
(in thousands)

1990	Total	African Americans	American Indians	Asians	Hispanics	Whites	Non-Asian Minority Population
Arizona Total Population	3,665	111	204	55	688	2,607	1,003
% of Arizona Population	100.0	3.0	5.6	1.5	18.8	71.1	27.4

Source: U.S. Department of Commerce, *Statistical Abstract of the United States 1993*, 113th ed. Washington, DC, pp. 30-31.

\* Quality Education for Minorities (QEM) Network, Washington DC, 1996. "Statistical Profile of Arizona."

## MSE Degrees in Arizona

In 1992-93, 355 non-Asian minorities earned a baccalaureate degree in an MSE field (see Table AZ-II), just 34 percent of the 1,050 degrees projected for Arizona's "fair share" of NSF's national goal. In the same year, only nine non-Asian minorities received a doctoral degree in an MSE field, 21 percent of the 42 degrees projected as Arizona's "fair share."

**Table AZ-II**  
MSE Degrees Awarded in Arizona by Race/Ethnicity, 1992-1993

	Bachelor's	Master's	Doctorate
African Americans	64	5	2
American Indians	54	3	0
Asians	150	26	22
Hispanics	237	28	7
Whites	2,924	542	188
Total	3,429	604	219
Total Non-Asian Minorities	355	36	9
% of Degrees Awarded to Non-Asian Minorities	10.4	6.0	4.1

Source: Unpublished data from U.S. Department of Education, National Center for Education Statistics.

## Arizona Institutional Responses

Three of the four higher education institutions in Arizona responded to the survey sent by QEM: Arizona State University (ASU), Northern Arizona University (NAU), and University of Arizona (U of A). Summary information on these universities and their survey responses follow.

### Arizona State University Main

**Dr. Milton D. Glick, Senior Vice President for Academic Affairs/ Provost**

**Tempe, AZ 85287**

**Enrollment: 42,040**

**Highest Offering: Doctorate**

**tel: 602/965-9011**

**fax: 602/965-1608**

**homepage: <http://www.asu.edu>**

### About the Institution

Arizona State University (ASU) is a metropolitan research university serving approximately 42,000 students at three campuses in the Phoenix area. The University sponsors academic, cultural, sports, and social activities throughout the Phoenix metropolitan area. ASU's main campus is located in the heart of Tempe where approximately 42,000 students are enrolled in day and evening classes. It offers 86 undergraduate, 97 master's, and 52 doctoral or terminal degree programs. The University is a nationally recognized research institution that offers excellent undergraduate and graduate education programs.

The Math-Science Honors Program, a five- to eight-week residential program at ASU, targets students in grades 10-12 and provides them an opportunity to take college level mathematics courses for credit. Participants in the Math-Science Honors Program are actively recruited by ASU.

### Support Services and College Environment

The Strengthening Understanding of Mathematics and Science (SUMS) Institute Director has a special interest in supporting minority students and serves as their academic advisor. Informal support structures for career planning and graduate school opportunities are more prevalent than formal networks on the ASU campus.



The SUMS Institute has sponsored several outreach activities, including after-school mathematics programs, teacher training, and tutoring.

**Northern Arizona University**  
**Dr. Charles W. Connell, Provost**  
**Flagstaff, AZ 86011**  
**Enrollment: 20,131**  
**Highest Offering: Doctorate**

tel: 602/523-9011

fax: 602/523-4230

homepage: <http://www.nau.edu>

### **About the Institution**

Northern Arizona University (NAU), founded in 1899, is a state funded university that values diversity on its campus and aggressively recruits minorities to maintain it. The University has a special Native American recruitment team made up of volunteer NAU faculty, staff, and students. Also, staff members are designated to recruit Hispanics and African Americans in the Phoenix and Tucson areas. These teams reach deep into minority communities and have had particularly successful recruitment efforts through Black churches and the clergy. Family contacts and community leaders are the principal sources for recruiting Hispanic students. The teams use “intrusive” counseling, interventions, and family visits, as necessary.

NAU invites pre-college students to consider careers in MSE-related areas through a wide array of programs. The University conducts summer science camps for pre-college students and is a member of the Colorado Plateau Coalition, which helps to expand opportunities to recruit minority students. NAU’s Environmental Microscale Pre-college Analytical Chemistry (EMPAC) program, funded by the Department of Energy, targets 11th graders. The College of Engineering and Technology offers a summer bridge program and a pre-engineering program for entering freshmen who need special assistance in mathematics.

NAU strives to achieve excellence in mathematics and science among pre-college students through its Science and Mathematics Learning Center. The center focuses on improving science and mathematics instruction in grades K-12, especially on reservations and in schools located near reservations.

NAU has formal articulation agreements with all community colleges in Arizona and has partnerships with approximately 10 community colleges to offer bachelor's degrees in selective disciplines on their campuses. NAU delivers two-way interactive television to community colleges in partnership with Arizona Western College and is constructing a \$4.5 million dollar facility to enhance this effort. Coconino County Community College and Maricopa Community College are major feeder schools for minorities entering NAU.

### **Support Services and College Environment**

NAU is planning special scholarships to encourage minority enrollment. A development plan in conjunction with NAU's 100th Anniversary will include raising funds from corporations and foundations for scholarships to assist minority students. NAU also provides state tuition waivers to eligible students based on merit. All science departments, and to a lesser extent, engineering, provide opportunities for undergraduate research participation by minorities. One such opportunity is provided through the NIH-supported Minority Biomedical Research Support (MBRS) program.

### **University of Arizona**

**Dr. Paul S. Sypherd, Senior Vice President for Academic Affairs/Provost**

**Tucson, AZ 85721**

**Enrollment: 34,777**

**Highest Offering: Doctorate**

**tel: 520/621-2211**

**fax: 520/621-9323**

**homepage: <http://www.arizona.edu>**

### **About the Institution**

The University of Arizona (U of A) has a student body that is 34 percent minority; the majority of these students are Hispanic. The University recruits from surrounding high schools through the Academic Program for Excellence and MESA. In addition to these programs, businesses and industries fund commuting and residential programs designed to expose high school students to engineering. U of A also has a strong relationship with community colleges as evidenced by its participation in a state-wide articulation effort with all Arizona community colleges. Pima County Community College is a major feeder school for the University.



## Support Services and College Environment

The University's engineering scholarships are based on academic merit and need. The Alumni Association provides scholarships for students in specific minority groups. Tuition waivers are available to minority students in the top 10 percent of their high school classes. The University has two Research Experiences for Undergraduates (REU) grants that provide stipends for students who are involved in research and who serve as tutors for other students. In addition to financial support, U of A urges students to participate in formal study groups and provides other mechanisms to assist minority students academically. Career Services, a University-wide service, is designed to advise, inform, and counsel students on career, summer, and graduate school opportunities.

The University of Arizona has four ethnic cultural centers—Chicano/Hispanic, African American, Native American, and Asian-Pacific Islander. Mathematics, science, and engineering-related national organizations with chapters on campus include the Society for Hispanic Professional Engineers (SHPE), the National Society of Black Engineers (NSBE), the Society of Women Engineers (SWE), and the American Indian Science and Engineering Society (AISES). The University also is involved in community outreach services through faculty visits to local high schools.

### FEATURES\* OF SUPPORT SERVICES AND COLLEGE ENVIRONMENT

(Institutions are listed in rank order according to the number of MPSE Degrees Awarded to Minority Students in 1992-93)

#### ARIZONA

INSTITUTION	COMMUNITY OUT-REACH	SPECIAL RECRUITMENT	SPECIAL SCHOLARSHIPS	SPECIAL OFFICE	SPECIAL COUNSELORS	ACCESSIBLE FACULTY	SUMMER BRIDGE	SPECIAL TUTORING	STUDY GROUPS	MSE STUDENT ORGANIZATIONS	ONE ON ONE ADVISING	PEER TUTORS	OTHER
Arizona State University	√	√			√			√					Pre-college Honors Program
University of Arizona	√		√	√					√	√		√	
Northern Arizona University	√	√	√		√		√						
DeVry Institute of Technology*													
Grand Canyon University**													

\* - Based upon information provided in institutional responses to QEM survey

\*\* - Did not return survey

# California



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# CALIFORNIA

"TOP TEN" INSTITUTIONS IN NON-ASIAN MINORITY MSE BACCALAUREATE DEGREES AWARDED, 1992-93  
(Ranked by number of degrees awarded in Mathematics, the Physical Sciences, and Engineering)

Institution	Mathematics, Physical Sciences, and Engineering	Life Sciences	Social Sciences	Total MSE Baccalaureate Degrees Awarded
California Polytechnic State University, San Luis Obispo	103	15	25	143
University of California, Los Angeles	91	58	492	641
California State University, Long Beach	77	14	55	146
California State Polytechnic University, Pomona	74	16	33	123
University of California, Berkeley	71	64	393	528
California State University, Los Angeles	64	21	74	159
Stanford University	57	13	87	157
ITT Technical, West Covina	52	0	0	52
University of California, Davis	52	57	86	195
California State University, Sacramento	48	8	41	97

Source: Unpublished data from the National Center for Education Statistics, U.S. Department of Education

- Notes: (1) Some states may not have 10 institutions listed because (a) there were fewer than 10 institutions in the state or (b) fewer than 10 institutions awarded degrees in mathematics, the physical sciences, and engineering to non-Asian minorities in 1992-93.
- (2) If institutions are ranked by the total number of MSE degrees awarded, the "top ten" list of institutions may vary.

## CALIFORNIA

### Introduction

California, with a 1990 population of approximately 30 million, ranks first in the nation in size of population, is home to approximately 18.6 percent of non-Asian minorities in the nation, and enrolls 19.3 percent of the nation's minority college students.\* California ranks first in the country in terms of the enrollment of non-Asian minority college students, with a total enrollment of 502,020 American Indian, African American, and Hispanic students. As shown in Table CA-I, non-Asian minorities constitute 34 percent of the total population of California.

**Table CA-I**  
**California Population by Race/Ethnicity**  
 (in thousands)

1990	Total	African Americans	American Indians	Asians	Hispanics	Whites	Non-Asian Minority Population
California Total Population	29,760	2,209	242	2,846	7,688	16,775	10,139
% of California Population	100.0	7.4	0.8	9.6	25.8	56.4	34.1

Source: 1990 U.S. Census Data

\* Quality Education for Minorities (QEM) Network, Washington DC, 1996. "Statistical Profile of California."

## MSE Degrees in California

In 1992-93, MSE baccalaureate degrees earned by non-Asian minorities in California totaled 4,636, representing only 48 percent of the 9,650 degrees projected as California's "fair share" of the NSF goal. A total of 85 non-Asian minorities received the Ph.D. degree in an MSE field in California during the 1992-93 academic year, which is just 22 percent of the 386 doctorate degrees projected as California's "fair share" of NSF's goal.

**Table CA-II**  
**MSE Degrees Awarded in California**  
**by Race and Ethnicity, 1992-1993**

	Bachelor's	Master's	Doctorates
African Americans	1,191	133	24
American Indians	283	17	2
Asians	6,833	987	227
Hispanics	3,162	297	59
Whites	18,768	3,313	1,340
Total	30,237	4,747	1,652
Total Earned by Non-Asian Minorities	4,636	447	85
% Earned by Non-Asian Minorities	15.3	9.4	5.1

**Source:** United States Department of Education,  
National Center for Education Statistics.



## California Institutional Responses

Responses to the QEM survey were received from five of the ten California higher education institutions that received questionnaires: California State University, Long Beach (CSULB), California State University, Los Angeles (CSULA), California State University, Sacramento (CSUS), University of California, Berkeley (UCB), and University of California, Davis (UCD). Summary information on these universities and their survey responses follow.

### California State University, Long Beach

**Dr. Karl W. E. Anatol, Provost/Senior Vice President for Academic Affairs**  
**1250 Bellflower Boulevard**  
**Long Beach, CA 90840**  
**Enrollment: 25,920**  
**Highest Offering: Master's**

tel: 310/985-1658  
fax: 310/985-5584  
homepage: <http://www.csulb.edu>

### About the Institution

California State University, Long Beach (CSULB), enrolls approximately 26,000 students, including about 6,900 non-Asian minority students. The Student Access to Science (SAS) Center, the Mobile Science Museum, and the MESA Engineering Program form the core of CSULB's recruitment efforts. The SAS Center recruits natural science and mathematics students through a variety of methods. For example, the University sponsors preparatory programs in mathematics and science that offer enrichment for students in grades 9 through 12 and allow high school seniors to take college level courses. The Mobile Science Museum, a mobile home equipped with scientific instruments and hands-on experiments, is available to visiting middle school students. The Mathematics, Engineering, and Science Achievement (MESA) Program is one of the most comprehensive in California. It is both an outreach and a reinforcement program that encourages minority students to enter mathematics, science, and engineering disciplines. The Program offers summer "Bridges to the Baccalaureate" activities, academic excellence workshops, and mentor support.

The University provides numerous programs aimed at increasing the retention rates of minority students. The Bridges to the Baccalaureate Program provides community college students the opportunity to do research in the



summer with college faculty. Also, the Alliance for Minority Participation (AMP) Program for entering minority and community college transfer students provides summer support activities as well as tutorials during the academic year to supplement academic courses. The NIH-supported Minority Biomedical Research Support (MBRS) and Minority Access to Research Careers (MARC) programs assist a significant number of minority students in entering graduate programs.

### Support Services and College Environment

A range of financial support opportunities are available through the SAS Center including the AMP, MBRS, MARC, and the SAS Scholars Program. These programs provide opportunities for undergraduate summer research and positions as student peer mentors. The MESA Engineering Program provides over \$80,000 annually to minority engineering students. Some upper class students work as mentors and academic facilitators for new students.

Interested students will find several points of entry into the CSULB mathematics, science, and engineering communities. Minority freshmen majoring in the natural sciences or mathematics receive a discipline-specific orientation, "Science Safari to Success," designed to build community, provide information on career options, and familiarize students with their peer mentors, faculty, staff, and laboratories. This program has significantly increased minority student retention. The departmental student association and the SAS Learning Assistance Center, both serve as additional links in the student support network by offering supplemental instruction for selected courses. Minority engineering students are invited to orientation, advising, tutoring, and professional development workshops sponsored by the MESA Engineering Program.

MSE students can choose from a variety of study groups. Formal, informal, and departmental student study groups are organized for specific mathematics and science courses. The engineering programs use formal and informal study groups for all foundation and upper division engineering courses. They also offer tutorials and other support sessions in mathematics and science.

The SAS Center and the MESA Engineering Program are active in advising and counseling on career, summer, and graduate school opportunities. The Center also compiles, updates, and disseminates information on summer research opportunities, sponsors science career workshops and an internship course, and assists students who are applying for graduate school. The Career Development Center disseminates a list of employment opportunities. The MESA Engineering Program encourages students to attend conferences and leadership retreats, and to join professional organizations.

Student MSE-oriented organizations and local chapters of national organizations enrich students' social, academic, and professional development. Several organizations are present on the CSULB campus, including: the Black Science Students Organization; Chicanos for Community Medicine; Latinos in Science; the Mathematics, Biology, and Microbiology Students' Associations; and the Student Affiliates of the American Chemical Society.

**California State University, Los Angeles**  
**Dr. Margaret J. Hartman, Provost and Vice President for Academic Affairs**  
**5151 State University Drive**  
**Los Angeles, CA 90032**  
**Enrollment: 18,385**  
**Highest Offering: Master's**

**tel: 213/343-3000**  
**fax: 213/343-2670**  
**homepage: <http://www.calstatela.edu>**

### **About the Institution**

California State University, Los Angeles (CSULA), founded in 1947 by action of the California State Assembly, is a comprehensive university that offers programs in more than 50 academic and professional fields. CSULA attracts students from all areas of the United States and from many foreign countries. About 25 percent of the University's students are enrolled in programs designed for professional advancement such as graduate programs leading to master's degrees; teaching, service, and specialist credentials; and certificates.

The University's feeder high schools have large percentages of Hispanic and African American students, as do several community colleges with which CSULA has articulation agreements. Pre-college and other programs have been designed by CSULA to ease the transition from high schools and community colleges to the University. One such program is ACCESS, an MSE-oriented program for both residential and commuting students that targets middle and high school students and their teachers. Other pre-college programs include: Upward Bound, the NSF-supported Young Scholars Program in mathematics, an NIH-supported apprenticeship program, and the NASA SHARP PLUS research apprenticeship program. The NIH Bridges to the Future program serves as an additional link between community colleges and CSULA.

## Support Services and College Environment

In addition to the traditional forms of student financial aid, CSULA provides financial support through special programs such as the MBRS, MARC, Health Career Opportunities, Hughes, and MESA. The MARC, MBRS, and Hughes programs offer research opportunities for minority students. Students also may enroll in independent study courses and conduct research as a part of their academic program.

The academic support structure at CSULA has several layers. Each MSE department offers guidance to students through undergraduate and graduate faculty advisors. Programs, such as those listed above, also involve counseling for students. The University sponsors formal and informal departmental study groups as well as tutorials in mathematics and science. Several CSULA faculty members have been recognized for their special interest in, and support of, minority students. The Dean of the School of Engineering, for example, is recognized nationally for his work on minority retention; the MARC and MBRS Director is known for his work in implementing the American Chemical Society (ACS) Minority Scholarships Program; and a professor of chemistry is a winner of state and national awards for undergraduate research.

In order to reach out to the community at large, CSULA holds open houses on campus and sponsors career days and other recruitment efforts in local high schools. The business community has reciprocated by selecting representatives to sit on advisory boards for various CSULA programs. Companies represented on these departmental and school advisory committees provide students with internships and opportunities for summer employment.

**California State University, Sacramento**  
**Dr. Jolene Koester, Vice President for Academic Affairs**  
**6000 J Street**  
**Sacramento, CA 95819**  
**Enrollment: 22,796**  
**Highest Offering: Master's**

**tel: 916/278-6011**  
**fax: 916/278-5722**  
**homepage: <http://www.csus.edu>**

### **About the Institution**

The California State University-Sacramento (CSUS) campus is located along the edge of the American River, where students have access to miles of bike and walking trails. CSUS is committed to graduating students in MSE fields and has several programs to keep students from "leaking out" of the MSE pipeline. The University recruits both local students and students in surrounding rural communities through its Project Success Program. Local companies underwrite the Program and serve as partners with CSUS. In return, students are placed in the companies through summer internship and cooperative programs. Also, CSUS welcomes the parents of Project Success students to participate in some of the Project's activities. Project Success provides financial resources to enable students to graduate within five and a-half years, with two and a-half years of professional experience.

CSUS maintains a formal agreement with MESA programs at community colleges to facilitate future enrollment of MESA participants in CSUS.

### **Support Services and College Environment**

CSUS has been able to find alternative sources of student support at a time when financial aid dollars are scarce. The Minority Engineering Program (MEP) at CSUS started the Pacific Telesis Scholarship Foundation which provides scholarships through contributions from non-profit and industrial organizations. In Spring 1993, MEP piloted an "adopt-a-student" program to increase financial assistance from private sources. Some Project Success students are selected as Industry Fellows; these fellows are offered full-time, paid internships during the summer and school breaks throughout their undergraduate careers. The income students earn, coupled with financial aid, allows them to attend school full-time and eliminate the need for them to work when classes are in session. MEP also helps engineering and computer science students locate summer jobs.

Through its study center, CSUS arranges study groups and workshops led by industry professionals in calculus/pre-calculus, chemistry, and physics. The Academic Success Center offers assistance in establishing study groups in all engineering and computer science courses. Study center staff members contact students who indicate a desire to be part of a group in a particular subject, find the best time for meeting, reserve space, and arrange for an expert to assist each group. In addition, the study center has a large study space with a computer laboratory that is open continuously.

Alliance for Minority Participation (AMP) students meet with academic advisors and participate in learning communities, workshops, field-trips, and study sessions. Formal and informal student study groups have been established for courses in biology, chemistry, and mathematics.

CSUS recognizes that a number of difficulties threatening a student's retention are non-academic. Many problems are associated with finances and many are "psychological" as a result of stress from family or school. A unique feature of CSUS is the personal interest that it takes in its students. One member of the MEP staff carries the title of "counselor," and students are encouraged to think of this person along with other MEP personnel as people who care. MEP has psychological counselors who see students immediately upon request. Also, the Science Educational Equity (SEE) Program is a comprehensive support program that incorporates major pre-professional advising by science faculty as well as cultural and social activities for students, faculty, and staff. Activities and resources include a student mentor program, a study room, conferences, fundraising activities, and publications.

**University of California, Berkeley**  
**Ms. Carol T. Christ, Vice Chancellor and Provost**  
**Berkeley, CA 94720**  
**Enrollment: 29,630**  
**Highest Offering: Doctorate**

tel: 510/642-6000  
fax: 510/643-8245  
homepage: <http://www.berkeley.edu>

### **About the Institution**

The University of California (UC), Berkeley, founded in 1868, is recognized internationally for its academic excellence. The faculty includes eight Nobel Laureates, 112 members of the National Academy of Sciences,

68 members of the National Academy of Engineering, and more Guggenheim Fellows and Presidential Young Investigators than any other university in the country. Renowned for the size and quality of its libraries and laboratories, the scope of its research and publications, and the distinction of its faculty and students, Berkeley ranks as one of the world's leading intellectual centers. More students who earn bachelor's degrees at Berkeley complete Ph.D.s than graduates of any other university in the country.

Every summer, more than 3,000 students come to the Berkeley campus to participate in the Berkeley Academy. The primary goal of the Academy is to increase the number of students from underserved populations who are competitively eligible to enter Berkeley. Students who attend the Berkeley Academy have the benefit of studying under world-renowned theorists and researchers who are often distinguished teachers.

### **Support Services and College Environment**

UC, Berkeley maintains an on-going effort to increase the number and ensure the success of underrepresented students in MSE disciplines from pre-college through graduate school. The Coalition for Excellence and Diversity in Mathematics, Science, and Engineering is a partnership of colleges, departments, and programs at Berkeley that have joined together to engage underrepresented minority students in special MSE studies and help them excel in these fields. The Coalition involves six programs:

- Biology Scholars Program (BSP)
- College of Chemistry Scholars Program (COCSP)
- Ronald E. McNair Scholars Program
- Minority Engineering Program (MEP)
- Professional Development Program (PDP)
- Student Learning Center (SLC)

**The Biology Scholars Program (BSP)**, established in 1992, is designed to increase the number of students from historically underrepresented groups in the biomedical sciences. BSP recruits and develops minority biologists from Berkeley's highly qualified undergraduate pool.

**The College of Chemistry Scholars Program (COCSP)**, established in 1991, promotes the development of minority chemistry and chemical engineering professionals. The College provides exclusive access to a student study center and engenders a sense of individual and community support.

**The Ronald E. McNair Scholars Program** informs, encourages, and motivates underrepresented students for doctoral study by providing research experience, faculty mentoring, information, and academic skills

improvement. The goal is to have at least 50 percent of the Scholars apply and be admitted to at least one graduate program leading to doctoral study with a full financial aid package.

**The Minority Engineering Program (MEP)** faculty members have developed orientation programs that welcome minority students to the undergraduate experience at Berkeley. Program innovations include an “academic boot-camp” for entering students. A network of graduate staff and faculty provides an academic support system for undergraduate students, and MEP actively encourages students to attend graduate school.

**The Professional Development Program (PDP)** focuses on calculus and pre-calculus classes. It supports training for mathematics graduate students to teach calculus, foster collaborative learning, and use innovative curriculum materials. Students participate in the departmentally sponsored “Scholars Programs.” **The Student Learning Center (SLC)** provides academic support to undergraduates in MSE as well as other fields. The Center is one of the primary sources from which students can receive training in tutoring skills.

The University conducts science-oriented outreach programs that serve K-12 students, teachers, and families and offer science literacy for the general public. Subject areas include disciplines such as marine biology and astronomy.

**University of California, Davis**  
**Dr. Robert Grey, Executive Vice Chancellor and Provost**  
**Davis, CA 95616**  
**Enrollment: 23,092**  
**Highest Offering: Doctorate**

tel: 916/752-1011  
fax: 916/752-6363  
homepage: <http://www.ucdavis.edu>

### About the Institution

The Division of Biological Sciences (DBS) at the University of California, Davis (UCD) enrolls 300 new transfer students each year through close relationships with several community colleges that have large numbers of minority students. Some of these students participate in the Biology Undergraduate Scholars Program (BUSP) and enter the University from the Summer Transition Education Program (STEP), a four-week summer residential program. The College of Engineering, on the other hand, recruits minorities through the Engineering Summer

Residency Program for high school juniors and the MESA Program. A year-round, externally funded, pre-college program targets K-12 students.

The College of Agricultural and Environmental Sciences offers the Minorities in Agriculture, Natural Resources, and Related Areas (MANRRA) Program that provides early academic outreach through science fairs, get acquainted days, visits with community college and high school students, and tutoring and mentoring programs. Another pre-college program available through the College is the Junior Academic Science Research Achievement Program (JASRAP) for 9th, 10th, and 11th grade students who are given the opportunity to work with faculty members over a five-week period.

### **Support Services and College Environment**

The College of Engineering offers several scholarships and stipends for research, including support from the California Alliance for Minority Participation in Science (CAMPS); Minority Opportunities for Research in Engineering; the Minority Undergraduate Research Program in Physical Sciences; and Mentorship for Undergraduate Research in Agriculture, Letters, and Science. The MANRRA Program and the College of Agriculture and Environmental Sciences co-sponsor a scholarship, internship, and job information program. The Enrichment Program for Human Environmental and Managerial Studies provides an opportunity for students to participate in undergraduate summer research programs. Seventy percent of the students in the Division of Biological Sciences (DBS) participate in research or internship programs. A freshman laboratory placement and an honors program allow sophomores to participate in research and prepare for careers. The Summer Honors and Research Program is a 10-week program for academically strong students. Participants in the Transfer Student Fellows Program are required to be actively engaged in undergraduate research during their first year at UCD.

DBS offers a comprehensive counseling system for all students, and several faculty members and administrators work closely with minority students. The College of Engineering has a number of minority student organizations that focus on MSE-related activities.

The College of Engineering conducts “workshops for excellence” at community colleges, through the CAMPS Program. Also, the College uses the Capitol Center MESA for outreach activities. DBS has several programs and partnerships through which it conducts outreach to local communities. UCD and Sacramento City College jointly fund the Biology Institute for High School Teachers. The University Partnership Program links UCD and selected community colleges for faculty training and enrichment. MANRRA students currently participate in a tutoring program for students in grades K-12.

## FEATURES\* OF SUPPORT SERVICES AND COLLEGE ENVIRONMENT

(Institutions are listed in rank order according to the number of MPSE Degrees Awarded to Minority Students in 1992-93)

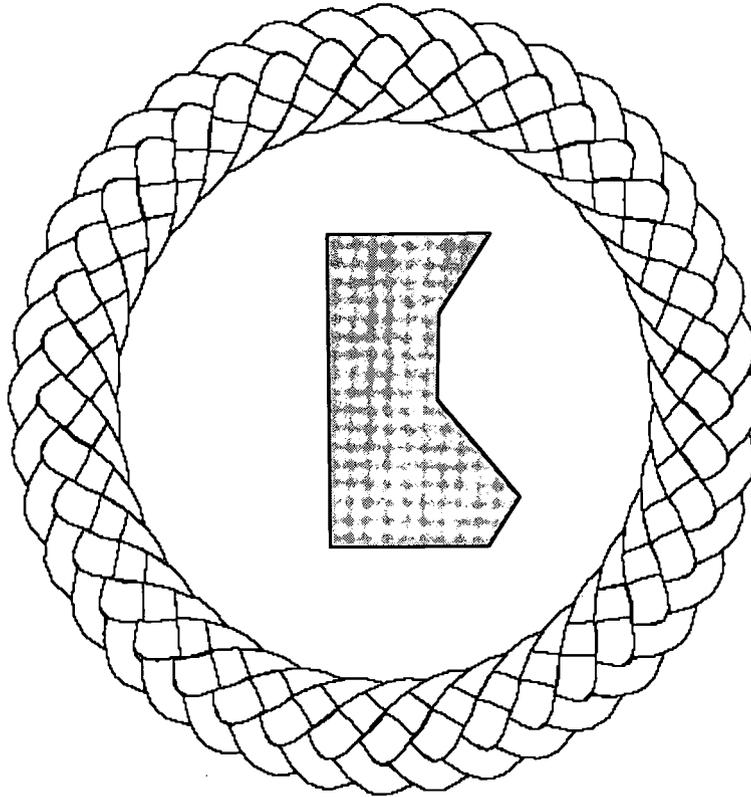
### CALIFORNIA

INSTITUTION	COMMUNITY OUT-REACH	SPECIAL RECRUITMENT	SPECIAL SCHOLARSHIPS	SPECIAL OFFICE	SPECIAL COUNSELORS	ACCESSIBLE FACULTY	SUMMER BRIDGE	SPECIAL TUTORING	STUDY GROUPS	MSE STUDENT ORGANIZATIONS	ONE ON ONE ADVISING	PEER TUTORS	OTHER
California Poly. State, San Luis Obispo**													
University of California, Los Angeles**													
California State Univ., Long Beach	√	√	√	√	√		√	√	√	√	√	√	Undergraduate Research; Formal Collaborative
California State Poly. Pomona**													
University of California, Berkeley	√	√		√	√	√	√	√				√	Undergraduate Research
California State Univ., Los Angeles	√	√	√		√	√	√	√	√		√	√	Undergraduate Research
Stanford University**													
ITT Technical, West Covina**													
University of California, Davis	√	√	√	√	√	√	√	√		√			Undergraduate Research; Mentors Program
California State Univ., Sacramento	√	√	√		√			√	√		√		Internships; Co-Op Program;; Mentors Program

\* - Based upon information provided in institutional responses to QEM survey

\*\* - Did not return survey

# Delaware



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# DELAWARE

"TOP TEN" INSTITUTIONS IN NON-ASIAN MINORITY MSE BACCALAUREATE DEGREES AWARDED, 1992-93  
(Ranked by number of degrees awarded in Mathematics, the Physical Sciences, and Engineering)

Institution	Mathematics, Physical Sciences, and Engineering	Life Sciences	Social Sciences	Total MSE Baccalaureate Degrees Awarded
University of Delaware	23	4	32	59
Delaware State University	11	4	7	22

Source: Unpublished data from the National Center for Education Statistics, U.S. Department of Education

- Notes: (1) Some states may not have 10 institutions listed because (a) there were fewer than 10 institutions in the state or (b) fewer than 10 institutions awarded degrees in mathematics, the physical sciences, and engineering to non-Asian minorities in 1992-93.
- (2) If institutions are ranked by the total number of MSE degrees awarded, the "top ten" list of institutions may vary.

## DELAWARE

### Introduction

Delaware, with a 1990 population of approximately 866,000, ranks 46th in the nation in state population, is home to 0.2 percent of non-Asian minorities, and enrolls 0.3 percent of the nation's non-Asian minority college students.\* Non-Asian minorities represent 15.0 percent of the state's total population, as shown in table DE-I.

**Table DE-I**  
 Delaware Population by Race/Ethnicity  
 (in thousands)

1990	Total	African Americans	American Indians	Asians	Hispanics	Whites	Non-Asian Minority Population
Delaware Total Population	866	112	2	9	16	727	130
% of Delaware Population	100.0	12.9	0.2	1.0	1.9	84.0	15.0

Source: 1990 U.S. Census Data.

\* Quality Education for Minorities (QEM) Network, Washington DC, 1996. "Statistical Profile of Delaware."

## MSE Degrees in Delaware

As shown in Table DE-II, during the 1992-93 academic year, 82 non-Asian minorities received MSE baccalaureate degrees in Delaware, representing 55 percent of the 150 degrees projected as the state's "fair share" of NSF's national goal. In the same year, only two non-Asian minorities received the Ph.D. degree in an MSE field, one-third of the six degrees projected as Delaware's "fair share" of NSF's goal for doctorates.

**Table DE-II**  
MSE Degrees Awarded in Delaware  
by Race/Ethnicity, 1992-1993

	Bachelor's	Master's	Doctorate
African Americans	70	12	2
American Indians	2	1	0
Asians	18	5	2
Hispanics	10	1	0
Whites	1032	100	56
Total	1132	119	60
Total for Non-Asian Minorities	82	14	2
% of Total Earned by Non-Asian Minorities	7.2	11.8	3.3

Source: Unpublished data from U.S. Department of Education, National Center for Education Statistics.

## Delaware Institutional Responses

Delaware has only five bachelor's degree-granting institutions. The two higher education institutions awarding MSE degrees to minorities responded to the survey questionnaires: Delaware State University and the University of Delaware. Summary information on these universities and their survey responses follow.

### Delaware State University

**Dr. Tossie E. Taylor, Vice President for Academic Affairs**

**Dover, DE 19901**

**Enrollment: 3,175**

**Highest Offering: Master's**

**tel: 302/739-4924**

**fax: 302/739-6292**

**homepage: <http://www.dsc.edu>**

### About the Institution

Delaware State University (DSU), established in Dover in 1891, is a public, comprehensive, land-grant institution. The University has grown in stature as a center for teaching, research, and public service. Today it provides higher education opportunities for a racially and culturally diverse student population. DSU's Division of Undergraduate Studies, comprised of three undergraduate schools with 22 academic departments, offers a range of science programs. The School of Graduate Studies offers a variety of programs leading to the master's degree in biology, chemistry, or physics. DSU enrolls approximately 3,000 undergraduate and graduate/professional students. The University has an articulation agreement with Delaware Technical Community College to facilitate student transfers from the two-year to the four-year institution.

Delaware State University actively recruits high school and community college students and offers on-campus, pre-college programs. The Admissions Office recruits students to the University by: 1) visiting various high schools in Delaware and neighboring states; 2) sponsoring a High School Day on campus; 3) distributing brochures to counselors in high schools; 4) recruiting in collaboration with the Athletic Department; and 5) using the Internet. Departmental meetings provide a forum for faculty to discuss ways to recruit additional students in mathematics, science, and engineering. Faculty assist in recruiting students during the Science Olympiad and during the summer when they serve as mentors in special enrichment programs as well as when they make presentations in high schools.

## Support Services and College Environment

An extensive array of on-campus, pre-college programs are available at DSU. These programs target students from elementary through high school and focus on mathematics, science, engineering, agriculture, and the arts. Jump Start, a new program at Delaware State, focuses on mathematics and English and allows the University to bring entering freshmen to campus the summer before they begin college. With the help of mentors, counselors, and instructors, students develop discipline, strong study habits, and critical learning skills. At DSU, undergraduate research opportunities are considered a key mechanism for attracting minority students to mathematics and science. Students are encouraged to participate in extramural summer research through a variety of University programs.

Financial support is made available through scholarships, grants, loans, and part-time employment administered through the University's Office of Financial Aid. For underrepresented minority students interested in majoring in mathematics, science, or engineering fields, the NSF-supported Alliance for Minority Participation Program awards twenty \$1,000 scholarships. In addition, full scholarships are awarded to students accepted into the Minority Access to Research Careers (MARC) Program and partial scholarships are available through the NIH-funded Minority Biomedical Research Support (MBRS) Program. MBRS is a program in which students actively conduct research during the academic year and summer under the mentorship of University faculty. Fraternities and sororities also award scholarships to students in many fields, including mathematics and science. The LINKS, a national organization, provides scholarships to minority students who are doing well as mathematics or science majors.

Additional undergraduate research opportunities include the Dean's Scholars Program through which highly motivated students work with faculty advisors to build their entire program of study, including off-campus experiences and independent research. Students also may participate in the National Student Exchange, a consortium of more than 100 colleges and universities that allows Delaware undergraduates to study for a semester or full academic year on another campus. Other minority-focused initiatives at DSU include the Black Students of Promise Reception, an annual minority career development seminar; programs providing individual and group tutorials, mentoring, and study skills workshops; and enrichment events to promote awareness and understanding of racial and cultural concerns throughout the campus community.

Peer group learning is encouraged and available through the Peer Tutoring Service program offered by the University's Counseling Center. The Center also offers tutoring in mathematics and science, as do the academic departments, the Office of Retention, and the Mathematics Resource Center. In addition, it is traditional for mathematics and science students at DSU to form study groups.

In order to recruit and retain underrepresented students, DSU will continue existing programs and establish an aggressive tutorial program.

**University of Delaware**  
**Dr. Melvin Schavelli, Provost**  
**Newark, DE 19716**  
**Enrollment: 21,365**  
**Highest Offering: Doctorate**  
**tel: 302/831-2000**  
**fax: N/A**  
**homepage: <http://www.udel.edu>**

### **About the Institution**

The University of Delaware (UD), founded in 1743 as a Presbyterian school, is one of America's oldest institutions of higher education. With funding from public and private sources, the University has 10 colleges at its campus in Newark. Recently, the University was honored as "a national model for its exemplary campus-wide technology network, planning, management, and accessibility," as well as for its effective use of the network to enhance teaching, learning, research, administration, and community service. UD enrolls approximately 21,000 undergraduate and graduate/professional students.

The Office of Admissions works closely with the Associate Director/Coordinator for Minority Recruitment who, in turn, works with directors of special minority programs on campus to recruit underrepresented minority students to the University. The Office builds prospective student lists using several methods, including working with neighborhood agencies and churches, getting students to visit the campus, providing pre-college academic programs, and scheduling visits to high schools where minority students are enrolled in large numbers. A special five-week, residential summer enrichment experience is offered to minority students interested in MSE disciplines. Students participating in this program receive academic instruction in requisite chemistry and biochemistry courses as well as assistance in developing "university survival" skills.

### **Support Services and College Environment**

The University of Delaware's commitment to support academically talented minority students is reflected in creative academic programs such as the Network of Undergraduate Collaborative Learning Experiences for

Underrepresented Scholars (NUCLEUS) and Resources to Insure Successful Engineers (RISE). These programs have been developed specifically to recruit, retain, and graduate academically talented African Americans, Hispanics, Native Americans, and Pacific Islanders majoring in chemistry, biochemistry, and biological sciences. Concentrating on the fundamental components of counseling, mentoring, and tutoring throughout the undergraduate career, these programs provide comprehensive academic enhancement services.

In an effort to increase the retention of undergraduates in the sciences, the University requires students to enroll in weekly seminars. Topics covered include the purpose of a university, introduction to library resources, diversity on campus, scientific research on campus, and common problems of college life. Consistent academic advisement and counseling help students focus on academic goals, trouble-shoot potential problems, and stay apprised of current academic, research, and professional opportunities.

The RISE Program is designed for minority students majoring in engineering at UD and local high school students who are interested in pursuing engineering careers. The Program consists of several activities, including pre-college engineering and science awareness programs that involve close interactions with the school districts. RISE's pre-college efforts include the Summer Residential Program, which provides the opportunity for up to 90 students to be engaged in a college-like curriculum. The RISE Summer Academy for incoming freshman students serves as a bridge experience to ease the transition from high school to college. During the Summer Academy Bridge Program, RISE provides a broad tutorial program called the *Math Insurance Program* to enhance students' success in their first mathematics course. RISE also offers a freshman mentor program and an academic scholarship program.

Financial support in the form of scholarships plays a key role in the University's recruitment efforts. Scholarships for minority students generally cover tuition for non-residents and full costs for residents. When scholarship funds are not available to a student, the institution attempts to fully meet the student's demonstrated need through a combination of federal and university grants, loans, and work study. For MSE students, financial assistance is available via merit-based scholarships and various external sponsors. The NUCLEUS Program supports students conducting undergraduate research through scholarships ranging from \$500 - \$1,500.

The University has the interests of its undergraduates at its core. Even before freshman classes begin, new students meet with faculty in their chosen major. Delaware's retention and graduation rates are above the national norms. Most classes are readily available so that students have ample time to complete their courses of study. The University also is linked technologically. With a swipe of a magnetic identification card, a student can register for classes over the telephone, use the computer in his/her room to search the library catalog, or ask questions of a professor. Also, students can buy parking stickers, register for classes, pay fees, and get answers to questions about

dining plans and financial aid at one campus location—the Student Service Building. Using self-service computer terminals, any student can view and print out his/her current class schedule, transcript, grade report, and semester bill as well as obtain financial aid information.

Student memberships in national scientific organizations provide opportunities for personal growth, leadership development, career exploration, and professional networking. Students who attend UD will find many student and professional organizations on campus, including the National Association of Minority Medical Educators; the National Organization of Black Chemists and Chemical Engineers; the National Society of Black Engineers (NSBE); and numerous honor societies.

The University participates in a regional alliance of institutions that have a collective goal of doubling the number of underrepresented racial and ethnic graduates receiving mathematics, science, and engineering degrees by the year 2000. With this goal in focus, the NUCLEUS and RISE programs intend to expand the number of students they reach, increase the retention rate of these students, and thus increase the number of graduating minority MSE students.

### FEATURES\* OF SUPPORT SERVICES AND COLLEGE ENVIRONMENT

(Institutions are listed in rank order according to the number of MPSE Degrees Awarded to Minority Students in 1992-93)

#### DELAWARE

INSTITUTION	COMMUNITY OUT-REACH	SPECIAL RECRUITMENT	SPECIAL SCHOLARSHIPS	SPECIAL OFFICE	SPECIAL COUNSELORS	ACCESSIBLE FACULTY	SUMMER BRIDGE	SPECIAL TUTORING	STUDY GROUPS	MSE STUDENT ORGANIZATIONS	ONE ON ONE ADVISING	PEER TUTORS	OTHER
University of Delaware	√	√	√		√		√	√		√	√		Undergraduate Research; Weekly Seminars
Delaware State University	√	√	√		√	√	√	√	√			√	Undergraduate Research

\* - Based upon information provided in institutional responses to QEM survey

# Florida



# FLORIDA

"TOP TEN" INSTITUTIONS IN NON-ASIAN MINORITY MSE BACCALAUREATE DEGREES AWARDED, 1992-93  
(Ranked by number of degrees awarded in Mathematics, the Physical Sciences, and Engineering)

Institution	Mathematics, Physical Sciences, and Engineering	Life Sciences	Social Sciences	Total MSE Baccalaureate Degrees Awarded
Florida International University	160	32	167	359
The University of Florida	106	23	73	202
Florida A&M University	86	20	81	187
University of Miami	68	44	39	151
University of South Florida	45	13	68	126
University of Central Florida	31	6	24	61
Florida State University	30	14	84	128
Florida Atlantic University	28	7	27	62
Embry-Riddle Aeronautical University	25	0	0	25
Florida Institute of Technology	22	3	0	25

Source: Unpublished data from the National Center for Education Statistics, U.S. Department of Education

- Notes: (1) Some states may not have 10 institutions listed because (a) there were fewer than 10 institutions in the state or (b) fewer than 10 institutions awarded degrees in mathematics, the physical sciences, and engineering to non-Asian minorities in 1992-93.
- (2) If institutions are ranked by the total number of MSE degrees awarded, the "top ten" list of institutions may vary.

## FLORIDA

### Introduction

Florida, with a 1990 population of approximately 13 million, ranks fourth in the nation in population size. It is home to approximately 6.2 percent of non-Asian minorities and enrolls 6.0 percent of the nation's non-Asian minority college students.\* Non-Asian minorities represent 26 percent of the state's total population, as shown in Table FL-I. Among the states chosen for QEM's survey<sup>1</sup>, Florida ranks fourth in terms of Hispanic college enrollment, fifth in terms of African American college enrollment, and 10th in terms of Asian student college enrollment.<sup>2</sup>

**Table FL-I**  
Florida Population by Race/Ethnicity  
(in thousands)

1990	Total	African Americans	American Indians	Asians	Hispanics	Whites	Non-Asian Minority Population
Florida Total Population	12,938	1,760	36	154	1574	9,414	3,370
% of Florida Population	100.0	13.6	0.3	1.2	12.2	72.8	26.1

Source: 1990 U.S. Census Data

\* Quality Education for Minorities (QEM) Network, Washington, DC, 1996. "Statistical Profile of Florida."

## MSE Degrees in Florida

In 1992-1993, MSE baccalaureate degrees earned by non-Asian minorities in Florida totaled 1,616, which is 54 percent of the 3,000 degrees projected as Florida's proportionate share of NSF's national goal. In that same year, only 25 non-Asian minorities received Ph.D. degrees in MSE fields in Florida, representing just 21 percent of the 120 doctorate degrees projected as Florida's proportionate share of NSF's goal.

**Table FL-II**  
MSE Degrees Awarded in Florida  
by Race/Ethnicity, 1992-1993

	Bachelor's	Master's	Doctorate
African Americans	678	71	11
American Indians	24	2	1
Asians	367	57	6
Hispanics	914	108	13
Whites	6,198	1,097	192
Total Number of Degrees	8,181	1,335	223
Total for Non-Asian Minorities	1,616	181	25
% of Degrees Awarded to Non-Asian Minorities	19.8	13.6	11.2

Source: Unpublished data from U.S. Department of Education, National Center for Education Statistics.

## Florida Institutional Responses

All 10 of the higher education institutions in Florida that received surveys responded: Embry-Riddle Aeronautical University, Florida Agricultural and Mechanical University, Florida Atlantic University, Florida Institute of Technology, Florida International University, Florida State University, University of Central Florida, University of Florida, University of Miami, and University of South Florida.

**Embry-Riddle Aeronautical University**  
**Dr. Ira D. Jacobson, Vice President, Academics**  
**600 South Clyde Morris Boulevard**  
**Daytona Beach, FL 32114**  
**Enrollment: 4,154**  
**Highest Offering: Master's**

**tel: 904/226-6000**  
**fax: 904/226-6299**  
**homepage: <http://www.db.erau.edu>**

### About the Institution

Embry-Riddle Aeronautical University, the largest independent aviation/aeronautical university in the United States, is located in Daytona Beach, Florida adjacent to the Daytona Beach International Airport. John Paul Riddle and T. Higbee Embry founded Embry-Riddle at Lunken Airport in Cincinnati, Ohio on December 25, 1925. In 1965, under the direction of Jack Hunt, President of Embry Riddle, the school moved to Daytona Beach. Embry-Riddle is accredited by the Commission on Colleges of the Southern Association of Colleges. Its bachelor's degree programs in aerospace engineering, aircraft technology, avionics engineering technology, and engineering physics have been approved by the Accreditation Board of Engineers.

Student enrollment in 1995 was 4,154. That year, African-Americans were 5.3 percent of the undergraduate population and 5.1 percent of the graduate students enrolled, while Hispanics were 7.0 percent of undergraduate student body and 8.0 percent of the graduate student population. Native Americans accounted for 0.4 percent of the undergraduate students.

The Undergraduate Admissions Office provides outreach services to a diverse student body. University recruitment initiatives include visiting high schools, participating in school programs, and providing visitation

opportunities for minority students. University staff interact with parents and families at general information sessions held in communities to make it easier for minority students to obtain information about Embry-Riddle. In addition, articulation agreements have been developed with many of the Florida community colleges and other community colleges nationally to recruit minority students.

### **Support Services and College Environment**

Scholarships and other forms of financial support such as the Air Force ROTC, Flight Leadership/Fellowship Program and other grants are available to students. The Career Services Office uses a variety of strategies to disseminate employment and graduate school information to the student body and alumni. Such strategies include: 1) posting job announcements on bulletin boards; 2) maintaining a web site; 3) preparing State of the Industry reports for all disciplines related to aviation/aerospace engineering; and 4) maintaining the second largest Cooperative Education/Internship Program in Florida.

Undergraduate students are employed as tutors in tutoring laboratories and as leaders for the Supplementary Instruction Sessions. These sessions are offered in all freshman and high level mathematics, chemistry, and physics classes. Other tutorial opportunities are provided by the individual departments. Several pre-college programs available to high school students include: Aviation Career Education (ACE) Academy, Upward Bound, Aerospace Summer Camp, and Sun Flight. The majority of these programs have no external funding; therefore, interested students must pay to participate.

The Counseling Center staff helps students improve their personal, emotional, and academic well-being. The mathematics, engineering, and engineering technology departments provide students with faculty advisors to discuss class work or any topic of concern. Departmental faculty and upper-classmen serve as mentors, and conduct study sessions and tutorial groups. The College Success Course also encourages students to connect with each other and form study groups. Mathematics, science, and engineering-oriented organizations available to students on-campus are the Mathematical Association of America, Society of Physics, Embry-Riddle Future Space Explorers and Developers Society, Society of Automotive Engineers, Avionics Engineering Technology Honor Society, and the Society of Women Engineers. The University holds annual events to bring the community and school together. Three such community-based events are the Women in Aviation Day, Project on Diversity, and African Heritage Scholars Reception. Embry-Riddle Aeronautical University plans to attract, retain, and graduate more minority students through initiatives that include developing a partnership with a high school in the Daytona Beach area.



**Florida Agricultural and Mechanical University**  
**Dr. James H. Ammons, Provost/Vice President for Academic Affairs**  
**Tallahassee, FL 32307**  
**Enrollment: 10,385**  
**Highest Offering: Doctorate**

**tel: 904/599-3000**  
**fax: 904/599-3952**  
**homepage: <http://www.famu.edu>**

### **About the Institution**

Florida Agricultural and Mechanical University was founded in 1887. It is a comprehensive, co-educational, residential, multi-level land-grant university offering a broad range of instruction, research, and service programs at the undergraduate, professional, and graduate levels. FAMU invests a great deal of effort and resources in student recruiting activities. The 30 educational fairs hosted by FAMU throughout the country are a joint effort between the University, the Alumni Association, communities, churches, and school districts. FAMU has articulation agreements with Miami-Dade Community College, Broward County Community College, Hillsborough Community College, North Florida Community College, Daytona Beach Community College, and Tallahassee Community College. These community colleges have a high proportion of Hispanic and African-American students.

### **Support Services and College Environment**

FAMU offers several grants and scholarships. Scholarship programs include the Mary McLeod Bethune Scholarship Challenge Grant Fund, the NASA Scholarship Program, and the National Science Scholars Program.

The University offers a number of research opportunities for undergraduate students through centers and institutes for research. Programs that provide research and teaching opportunities include Minority Access to Research Careers (MARC) and the Minority Biomedical Research Support (MBRS). Tutorial services are conducted by individual departments for students who need extra help. Other programs that provide tutorial services are the Florida-Georgia Alliance for Minority Participation (FGAMP) Program and the Hewlett-Packard Tutorial Laboratory. Many faculty members serve as mentors to students for the duration of their matriculation.

Several formal mechanisms are used to provide undergraduate and graduate students with information, advice, and counseling on summer jobs. These include: the Faculty Mentors Scholars Program, the Graduate Feeder

Program, FGAMP, and information through various mathematics, science, and engineering departments. The Career Center offers career counseling, assessment services, job posting, career day programs, seminars, workshops, presentations, and career forums.

FAMU offers a number of pre-college programs for students in grades six through twelve, for four to six weeks during the summer. Some of the externally funded programs are residential. The pre-college programs include Minority Introduction to Engineering, Center for Advancing Minority Participation in the Biomedical Sciences, Research Apprenticeship Program for Minority High School Students, and the NASA SHARP PLUS Summer High School Research Apprenticeship Program.

The University has 12 colleges and schools that have implemented retention plans to ensure the academic success of their students. Mathematics, science, and engineering-oriented organizations on campus include the American Society of Civil Engineers, Biology Pre-Med Society, Electronic Engineering Technology Club, the National Society of Black Engineers, and the American Society of Chemical Engineers. Upward Bound and other pre-college programs foster minority and community-based outreach activities.

### **Florida Atlantic University**

**Dr. Richard L. Osburn, University Provost/Chief Academic Officer**

**PO Box 3091, 777 Glades Road**

**Boca Raton, FL 33431**

**Enrollment: 19,559**

**Highest Offering: Doctorate**

**tel: 407/367-3000**

**fax: 407/367-3942**

**homepage: <http://www.fau.edu>**

### **About the Institution**

Florida Atlantic University is a regional, comprehensive, doctoral-granting institution serving seven counties in Southeast Florida and offering degrees in Boca Raton. It was the fifth university to join the Florida State University System. The University has a full-time Coordinator for Minority Recruitment who has developed an extensive outreach to parents of minority students. The University's enrollment includes 1,802 African American, 1,650 Hispanic, and 55 Native American students.

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A college outreach program, with a special emphasis on minorities, reaches students in grades six through twelve. University and academic department newsletters are mailed to high school students and additional recruiting is conducted through peer interactions, community organizations, local churches, and community visits. FAU is working to recruit students from the Haitian community by bringing both parents and students to the campus.

Once minority students are accepted to FAU, the Coordinator for Minority Recruitment holds a reception for them and describes specific minority support services. The South-eastern Consortium for Minorities in Engineering (SECME) also assists FAU in recruiting minority students from all high schools in Florida. The University has formal articulation agreements with Broward, Palm Springs, Indian River, and Miami-Dade Community Colleges.

### Support Services and College Environment

The Office of Admissions assists with all financial aid and SECME provides 26 scholarships for minorities in engineering programs. Students who need academic help may contact tutors year round, many of whom are retired faculty. Students also receive support from the Office of Minority Student Services, which offers mathematics and writing laboratories and from the College Success Center, which assists students in improving or reinforcing their basic academic skills. The latter offers a course entitled, "Becoming a Master Student," an extended orientation course designed to teach students the skills they will need to get the most out of their college experience.

The University provides numerous outlets for both pre-college and college students to network with professionals and alumni. A graduates' forum is held annually where returning alumni stress the benefits of graduate school. The Office of Career Development informs minority students of career and job opportunities such as those provided by Motorola and Pratt & Whitney through internships and co-op programs. Research opportunities also are available to students in the School of Engineering. In addition, the University offers 19 pre-college programs. SECME sponsors a Science Olympiad Program and an Adopt-a-School Program at a local high school. The Technology Connection is a one-week, residential program for minority students.

Florida Atlantic University strives to address short and long term academic problems and to facilitate positive personal relationships between faculty and students. A "Welcome Back" picnic is held each fall for faculty, students, administrators, and staff. Students are assigned advisors with whom they meet twice a month. The Society of Black Achievers (SOBA) and the Hispanic Initiative Program (HIP) assist new minority students in their academic and social adjustment through peer counseling programs. These clubs also host cultural and social activities. The National Society of Black Engineers, the Society of Women Engineers, and the Pan African Student Union host academic, professional, and social activities for students.



Student retention is an important emphasis of the FAU administration. The University operates the Student Academic Alert System (SAAS) that involves input from all instructors about each student at mid-term. This system monitors the academic progress of minority freshmen.

The School of Engineering encourages students to develop study groups and team exercises. Florida Atlantic University wants to develop a new generation of successful and hard working citizens. FAU students and faculty are involved in community service activities in three neighborhoods.

FAU plans to expand Hispanic student recruiting efforts and to enhance its tutoring programs.

**Florida Institute of Technology**  
**Dr. Andrew W. Revay, Vice President for Academic Affairs**  
**150 West University Boulevard**  
**Melbourne, FL 32901**  
**Enrollment: 4,232**  
**Highest Offering: Doctorate**

tel: 407/768-8000  
fax: 407/984-8461  
homepage: <http://www.fit.edu>

### **About the Institution**

The Florida Institute of Technology (FIT), established in 1958, recently received a \$50 million grant from the F.W. Olin Foundation, a portion which has been allocated for an advanced engineering complex and a life sciences building. The Institute participates in the National College Fair program and recruits from local high schools in the Melbourne area. FIT has articulation agreements with community colleges in the State of Florida such as Brevard Community College, Indian River Community College, and Valencia Community College, each of which is a major source of minority students for the Institute.

### **Support Services and College Environment**

Seventy-five percent of the student body receives some type of financial aid based on merit and/or need. Scholarships are offered to students from Florida community colleges. Academic Support Services provides the

only formal tutoring program at FIT and upper-classmen with a 3.3 or higher GPA may serve as peer tutors to assist entering students. To keep students informed on career opportunities, the Career Services Office publishes an institution-wide newsletter and maintains a web site. In addition, FIT is a member of the South-Eastern Consortium for Minorities in Engineering (SECME); it has developed a partnership with the Harris Corporation, which provides co-op programs and summer internships for students; and it provides a number of undergraduate research opportunities. The Institute offers pre-college students from local high schools an opportunity to visit its classrooms and laboratories.

Some departments assign students to academic advisors randomly. Other departments assign all freshman students to one advisor and then transfer them to advisors in their specific majors as they progress. Formal study groups are formed in the Mathematics Department for students in Calculus I and II and in Differential Equations. Campus chapters of the National Society of Black Engineers and the Society of Hispanic Professional Engineers provide mentoring to students in the local community. One of the Institute's primary goals is to increase the number of enrolled minority students. It is expanding its efforts to recruit, retain, and graduate more minority students.

**Florida International University**  
**Dr. James A. Mau, Provost/Vice President for Academic Affairs**  
**University Park**  
**Miami, FL 33199**  
**Enrollment: 28,171**  
**Highest Offering: Doctorate**

**tel: 305/348-2000**  
**fax: 305/559-7251**  
**homepage: <http://www.fiu.edu>**

### **About the Institution**

Florida International University (FIU) is an urban, multicampus, doctoral-granting institution. The Office of Admissions targets schools that have large numbers of minority students. The Office of Minority Programs recruits minority students, and the University has a formal articulation agreement with all community colleges in the State of Florida.



## Support Services and College Environment

Along with federal, state, and institutional loans and scholarships, the University has the President Scholars and the Florida-Georgia Alliance for Minority Participation (FGAMP) Scholarship programs for students in need of financial aid. Individual departments coordinate undergraduate research and teaching or tutoring opportunities during the academic year and summer. Also, mathematics, science, and engineering (MSE) departments, FGAMP, and student services offer tutorials and other support sessions for students. FGAMP has established a mentor program, called "The Faculty Mentor Program" and the College of Engineering and Design has an industry mentor program.

FIU has several individualized support mechanisms for students. It offers small classes and the student-faculty ratio is 18:1. Several informal study groups exist and MSE students can join the Society of Women Engineers, the National Society of Black Engineers, or the Society of Hispanic Professional Engineers. FIU will continue its efforts to attract minority students.

**Florida State University**  
**Dr. Lawrence G. Abele, Provost and Vice President for Academic Affairs**  
**Tallahassee, FL 32306**  
**Enrollment: 30,268**  
**Highest Offering: Doctorate**

**tel: 904/644-2525**  
**fax: 904/561-1405**  
**homepage: <http://www.fsu.edu>**

### About the Institution

The Florida State University (FSU) is a public, fully accredited, coeducational institution of the State University System of Florida with courses of study available that lead to the baccalaureate degree in 88 fields, to the master's degree in 97 fields, and to the doctorate in 66 fields. The FSU Admissions Office has full-time recruiters who target minority high schools to recruit African American and Hispanic students. A Summer Enrichment Program is offered for matriculating freshman minority students. Florida State University has a formal articulation agreement with Tallahassee Community College and the Director of Community College Relations coordinates all activities between the two campuses. The campuses are geographically close, and student activities at FSU are open to all Tallahassee Community College students.

**Support Services and College Environment**

FSU offers incentive scholarships of \$2,000 per year to eligible minority students. These scholarships are renewable annually based on grades. The State of Florida Minority Scholars Program in mathematics, science, and engineering (MSE) operates at FSU, providing 15 minority students per year with scholarships. The Florida-Georgia Alliance for Minority Participation (FGAMP) offers research opportunities to undergraduate students and the Admissions Office disseminates information about career opportunities and graduate schools. In addition, the Biology and Oceanography departments offer special summer programs for minority students. Minority students in MSE fields are individually matched with a faculty member and a graduate tutor. The University makes special efforts to place minority students in research, teaching, internship, and tutoring programs.

FSU has a full-time Assistant Vice President of Student Affairs for Minority Concerns. The Multicultural Student Support Center sponsors counseling and tutoring, and, in conjunction with FGAMP, forms study groups for interested students. In addition, the Black Student Union, a Hispanic Student Center, and a Center for Caribbean Students provide social and academic support to specific student groups. A number of nationally recognized student organizations, such as the National Society of Black Engineers and the Society of Hispanic Professional Engineers, have chapters on the FSU campus. Florida Agricultural and Mechanical University, a predominantly Black institution in Tallahassee, and FSU have a joint engineering program that attracts students from both institutions.

**University of Central Florida**  
**Dr. Gary Whitehouse, Provost and Vice President for Academic Affairs**  
**PO Box 25000**  
**Orlando, FL 32816**  
**Enrollment: 26,325**  
**Highest Offering: Doctorate**

tel: 407/823-2000  
 fax: N/A  
 homepage: <http://www.ucf.edu>

**About the Institution**

The University of Central Florida has developed rapidly since its founding in 1963 by working cooperatively with surrounding mid-Florida communities to deliver programs of instruction, research and service that sustain and



stimulate progress throughout the region. UCF has a comprehensive minority recruitment plan designed to identify, attract, and enroll minority students in the University. The plan includes activities such as special high school visits and special on-campus functions such as Diversity Day and Decision Days. Decision Days target high schools with large populations of minority students and offer immediate admissions decisions.

The Office of Articulation at UCF has an informal agreement with Florida community colleges to facilitate student transition to the University. Multicultural Student Services (MSS) acts as a liaison with the articulation and community relations office at UCF to recruit and welcome new students.

### **Support Services and College Environment**

The Minority Scholars Program offers scholarships to minority freshmen in mathematics, science, and engineering (MSE). This program is highly effective with a 95 percent successful retention rate. The Office of Student Financial Assistance supports eligible students and the Office of Admissions offers a variety of merit-based scholarships to minority students. These scholarships include: the National Achievement Scholarship, the Minority Academically Talented Scholarship, and the Non-Resident Academically Talented Scholarship. Approximately 300 students were awarded one or more of these scholarships that totaled about \$362,000.

The Admissions Office at UCF also participates in the Freedom Forum Scholarship Program. This Program invites the top 5 to 10 percent of senior high school students from selected geographical areas to participate in a day-long event that provides colleges with the opportunity to speak to and recruit academically talented African American students. UCF offers over twenty \$3,000 scholarships to these students.

Several organizations assist MSE majors during their matriculation at UCF, including mathematics and science clubs and the National Society of Black Engineers.

**University of Florida**  
**Dr. Andrew A. Sorensen, Provost and Vice President for Academic Affairs**  
**Gainesville, FL 32611**  
**Enrollment: 39,413**  
**Highest Offering: Doctorate**

**tel: 904/392-3261**  
**fax:**  
**homepage: <http://www.ufl.edu>**

### **About the Institution**

The University of Florida, founded in 1853, is a state university located in Gainesville. The University is a major public, comprehensive, land-grant, research university. It is among the nation's most academically diverse public universities and has a long history of established programs in international education, research, and service.

The Minority Engineering Program (MEP) actively recruits students by conducting college visits and tours, and by mailing University of Florida information to high school teachers, counselors, and students. The Physics Department sends a departmental newsletter to all local high schools. The University of Florida has an informal articulation agreement with Santa Fe Community College in Gainesville.

### **Support Services and College Environment**

The University, MEP, industry, professional organizations, and non-profit organizations all offer financial assistance. These organizations provide needed income to students and reward academic excellence. The University provides special assistance to minority engineering students in acquiring engineering-related summer jobs and research positions. The University of Florida ensures that all students needing extra help are matched with appropriate tutors. All professors have posted office hours, and minority students often find talking with professors, including minority professors outside of the classroom to be useful. When seeking summer or full-time employment, students may browse departmental brochures, visit the MEP Office, or visit the Career Resource Center where valuable information about jobs, internships, and volunteer work is located.

The University of Florida is committed to retaining its students, and assigns a mentor to each student. In the Physics Department, departmental mentors are designated for students immediately upon their entry in the Department. Engineering students receive academic advising to ensure they take the proper classes. In addition to university-run mentoring programs, students can join study groups through specific departments or meet



informally with classmates. A University of Florida student may choose to join a number of academic and social organizations. Minority engineering students can become members of the National Society of Black Engineers or the Hispanic Engineering Society. The University of Florida plans to continue and expand its recruitment efforts, including scheduling road trips to targeted Florida minority schools each fall.

### **University of Miami**

**Dr. Steven G. Ullmann, Vice Provost/Faculty Affairs & University Administrator**

**University Station**

**Coral Gables, FL 33124**

**Enrollment: 13,541**

**Highest Offering: Doctorate**

**tel: 305/284-2211**

**fax:**

**homepage: <http://www.miami.edu>**

### **About the Institution**

The University of Miami was chartered in 1925 by a group of citizens who felt that an institution of higher learning was needed for the development of their young and growing community. The University of Miami, established in 1925, has a current enrollment that is 49 percent minority, excluding international students. The Office of Minority Student Affairs has the primary responsibility for recruiting minority students and targets high schools with high minority populations. A formal articulation agreement has been established with Miami Dade Community College and Broward Community College in order to facilitate the transfer of students from these institutions to the University of Miami.

### **Support Services and College Environment**

The University of Miami has scholarship programs that specifically target minority students. The Office of Minority Student Affairs is currently formulating financial packages to attract minorities. Florida Access Grants and University Scholarships are available to all students. Several sources that support students academically are the Math Help Desk; the Writing Center; the Study Skills Center; and the Master Tutors Program. The Master Tutors Program hires tutors to assist students in mathematics, science, and engineering (MSE) courses. Bridges to the Future: A Partnership to Increase Minorities in BioMedicine, is a pre-college program that involves Miami Dade Community College and local high schools.

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The campus has a wide variety of clubs for minority students, including the Black Engineers Club which recently won a national award for its programs. The presence of African American fraternities and sororities on campus contributes to the overall support system. Also, the African American Student Association and the International Student Association contribute to a supportive and enriching environment for minorities. Students in the School of Engineering have been involved in rehabilitation efforts resulting from hurricane damage. Students in the School of Architecture have designed housing for the homeless, and students in the School of Medicine operate a mammogram van service for low-income communities in Miami.

Students are encouraged to work in community projects. The University intends to increase its minority recruitment and retention efforts and has taken steps to recruit more minority faculty members.

**University of South Florida**  
**Dr. Thomas J. Tighe, Provost and Chief Operations Officer**  
**4202 Fowler Avenue**  
**Tampa, FL 33620**  
**Enrollment: 36,142**  
**Highest Offering: Doctorate**

**tel: 813/974-2211**  
**fax: N/A**  
**homepage: <http://www.usf.edu>**

### **About the Institution**

The University of South Florida was founded in 1956 as a single-campus undergraduate institution in Tampa. Today, the University of South Florida is a multi-campus, comprehensive, research university strongly committed to the pursuit of excellent teaching, significant research, and useful public service. The University prepares students for their personal lives and for professional career contributions to society; and it serves its external communities through the citizenship and expertise of its faculty, students, and graduates.

A recruiter visits high schools with large minority populations in Florida and urban areas along the East Coast. Also, siblings of minority graduates of the University of South Florida are targeted in recruitment efforts. Workshops on how to adjust to university life are offered to students, especially those who are away from home for the first time. The University has a Director of Community College Relations who works with all community colleges in Florida regarding student transfers. The University has specific articulation agreements with Hillsborough, Valencia, and St. Petersburg Community Colleges.



## Support Services and College Environment

Students receive or may apply for several grants, loans, and scholarships. The Black Scholars Scholarship Program provides assistance to entering African American freshmen with a GPA of 3.0 or better. Two thousand dollars (\$2,000) a year scholarships are awarded to students with a GPA of 3.0-3.4, and \$3,000 a year scholarships to students with a GPA of 3.5 or higher. Initial enrollment in this program is based on the student's SAT or ACT score. A similar program targets Hispanic students. The Pursue Excellence Program also offers financial aid to students. The McNair Scholarship Program supports 30 minority students in a six-week summer research institute at the close of their junior year. During their senior year, students participate in internships with faculty as well as in Graduate Record Examination preparatory workshops. Eighty percent of McNair Scholarship students continue to graduate school where 30 to 40 percent earn the Ph.D. degree.

The State of Florida funds a summer orientation program for minority students that includes a \$1,300 stipend. The Minority Engineering Program (MEP) provides minority students with internships, counseling, and graduate placement. Minority engineering students interested in summer employment or research may apply for the Jay O'Shields Internship Program. MEP offers pre-freshmen a two-three week summer residential program and a stipend. The course seeks to improve students' writing and study skills.

Special learning communities are encouraged on campus, and various organizations sponsor mathematics, science, or engineering study sessions. The Black Student Union, the National Society of Black Engineers, and the Tutorial Center support students in their studies. The University Community Relations Office has specific outreach activities to African American and Hispanic communities. The Institute on Black Life, located on campus, conducts research, development, and community outreach efforts.

FLORIDA

## FEATURES\* OF SUPPORT SERVICES AND COLLEGE ENVIRONMENT

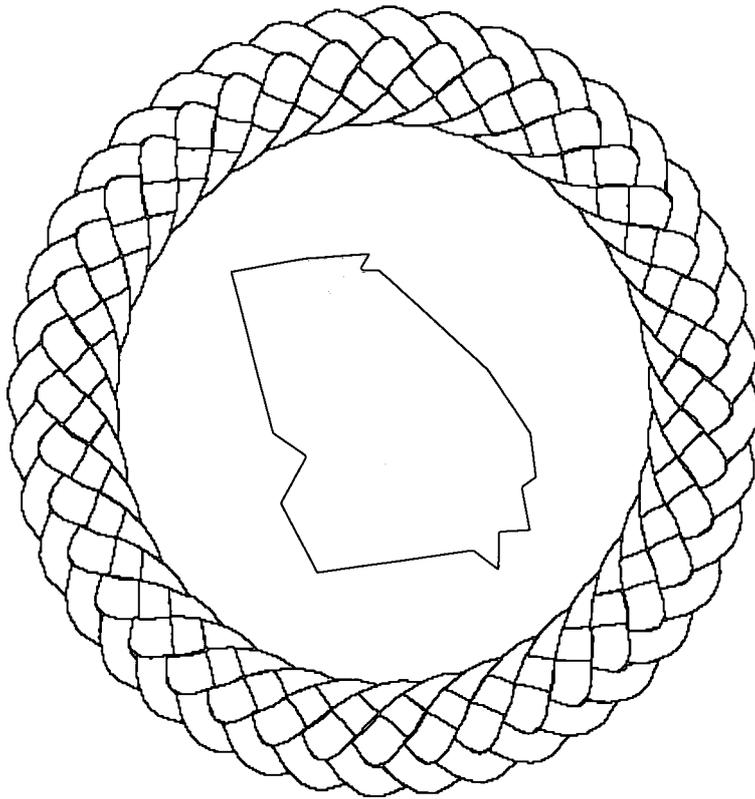
(Institutions are listed in rank order according to the number of MPSE Degrees Awarded to Minority Students in 1992-93)

### FLORIDA

INSTITUTION	COMMUNITY OUT-REACH	SPECIAL RECRUITMENT	SPECIAL SCHOLARSHIPS	SPECIAL OFFICE	SPECIAL COUNSELORS	ACCESSIBLE FACULTY	SUMMER BRIDGE	SPECIAL TUTORING	STUDY GROUPS	MSE STUDENT ORGANIZATIONS	ONE ON ONE ADVISING	PEER TUTORS	OTHER
Florida International University		√	√	√				√	√	√		√	Undergraduate Research; Mentors Program
The University of Florida	√	√	√			√			√	√	√	√	Summer Job Placement; Departmental Mentors Program
Florida A&M University	√	√	√		√	√	√	√		√			Undergraduate Research; Mentors Program
University of Miami	√	√	√	√				√		√			
University of South Florida	√	√	√				√	√	√	√			Internships
University of Central Florida	√	√	√	√						√			
Florida State University	√	√	√	√	√		√	√	√	√	√		Undergraduate Research
Florida Atlantic University	√	√	√	√				√	√	√			
Embry-Riddle Aeronautical University	√	√			√	√		√	√	√	√	√	Undergraduate Research; Co-Op Program
Florida Institute of Technology	√	√	√					√	√	√	√	√	Undergraduate Research; Co-Op Program

\* - Based upon information provided in institutional responses to QEM survey

# Georgia



# GEORGIA

"TOP TEN" INSTITUTIONS IN NON-ASIAN MINORITY MSE BACCALAUREATE DEGREES AWARDED, 1992-93  
(Ranked by number of degrees awarded in Mathematics, the Physical Sciences, and Engineering)

Institution	Mathematics, Physical Sciences, and Engineering	Life Sciences	Social Sciences	Total MSE Baccalaureate Degrees Awarded
Georgia Institute of Technology-Main Campus	130	4	3	137
Spelman College	56	38	94	188
Southern College of Technology	37	0	0	37
Morehouse College	34	0	122	156
Savannah State College	33	11	24	68
Clark Atlanta University	29	32	37	98
DeVry Institute of Technology	26	0	0	26
Georgia Southern University	18	4	6	28
Fort Valley State University	13	13	5	31
Georgia State University	12	4	45	61

Source: Unpublished data from the National Center for Education Statistics, U.S. Department of Education

- Notes: (1) Some states may not have 10 institutions listed because (a) there were fewer than 10 institutions in the state or (b) fewer than 10 institutions awarded degrees in mathematics, the physical sciences, and engineering to non-Asian minorities in 1992-93.
- (2) If institutions are ranked by the total number of MSE degrees awarded, the "top ten" list of institutions may vary.

## GEORGIA

### Introduction

Georgia, the largest state in land area east of the Mississippi River, had a 1990 population of about six and a half million. The state ranks 11th in the nation in population size; 29 percent of its citizens are non-Asian minorities; and it enrolls 2.8 percent of non-Asian minority college students nationwide. In 1990, 27 percent of Georgia's population was African American, by far the largest minority group in the state (Table GA-I).<sup>\*</sup> Among the states chosen for QEM's survey,<sup>1</sup> Georgia ranked eighth in terms of African American college enrollment.<sup>2</sup>

**Table GA-I**  
Georgia Population by Race/Ethnicity  
(in thousands)

1990	Total	African Americans	American Indians	Asians	Hispanics	Whites	Non-Asian Minority Population
Georgia Total Population	6,478	1,747	13	76	109	4,533	1,869
% of Georgia Population	100.0	27.0	0.2	1.2	1.7	70.0	28.9

Source: 1990 U.S. Census Data.

\* Quality Education for Minorities (QEM) Network, Washington, DC, 1996. "Statistical Profile of Georgia."

## MSE Degrees in Georgia

In 1992-1993, MSE baccalaureate degrees earned by non-Asian minorities in Georgia totaled 1,187, which is 85 percent of the 1,400 projected as Georgia's proportionate share of NSF's goal. Only 23 non-Asian minorities received Ph.D. degrees in MSE fields in Georgia in 1992-1993, which is less than half the 56 degrees projected as Georgia's proportionate share of NSF's national goal for doctorates.

**Table GA-II**  
MSE Degrees Awarded in Georgia by Race/Ethnicity, 1992-1993

	Bachelor's	Master's	Doctorate
African Americans	1,095	112	14
American Indians	9	3	0
Asians	229	67	18
Hispanics	83	34	9
Whites	4,421	654	170
Total	5,837	870	211
Total Earned by Non-Asian Minorities	1,187	149	23
% of Total Earned by Non-Asian Minorities	20.3	17.1	10.9

Source: Unpublished data from the U.S. Department of Education,  
National Center for Education Statistics.

## Georgia Institutional Responses

Five of the nine higher education institutions in Georgia that received survey questionnaires responded: Georgia Institute of Technology, Georgia Southern University, Georgia State University, Morehouse College, and Spelman College. Summary information on these institutions and their survey responses follow.

### Georgia Institute of Technology

**Dr. Michael E. Thomas, Provost and Vice President for Academic Affairs**

**Atlanta, GA 30332**

**Enrollment: 13,036**

**Highest Offering: Doctorate**

**tel: 404/894-2000**

**fax: 404/894-5520**

**homepage: <http://www.gatech.edu>**

### About the Institution

Georgia Institute of Technology (Georgia Tech) is a state school that was established in 1885. The Institute builds on traditional strengths in academics as well as on a unique interdisciplinary curriculum which provides its students with a broad and practical background. U.S. News & World Report ranked Georgia Tech number one in industrial and manufacturing programs. The Tech community takes pride in its diversity. Out of a total 1993 enrollment of 12,916, the minority population was 3,383. The Institute ranks first in the total graduate engineering degrees awarded to underrepresented minorities (African Americans, Hispanics, and Native Americans). Although it has no separate minority recruitment plan, Georgia Tech does have a comprehensive recruitment plan designed for all students. The Institute does not have formal articulation agreements with local community colleges; however, it is involved in a dual degree program with several Historically Black Colleges and Universities (HBCUs). The program allows students to attend an HBCU for three to four years and receive a mathematics, science, or general engineering degree and then attend Georgia Tech for two additional years to receive a bachelor's degree in engineering. Participating schools include Clark Atlanta University, Morehouse College, Morris Brown College, Spelman College, and Xavier University of Louisiana.

### Support Services and College Environment

Georgia Tech sets aside specific funds for scholarships to minority students. The Institute offers financial aid that includes scholarships, work study, and loans to all students. It makes limited numbers of undergraduate research

opportunities available to all students on a first come, first serve basis. Formal undergraduate tutoring opportunities are available throughout the year in the College of Science, the College of Engineering, Student Services, and the Department of Housing. The latter provides residential tutoring through its Freshman Experience Program. The Career Services Center addresses employment and career needs of students. The Counseling Center offers numerous programs that guide students into specific career directions. The College of Engineering's Special Programs Office offers several pre-college programs and initiatives throughout the summer that target elementary, middle, and high school students. Some of these programs include Career Awareness in Science and Engineering (CASE), Freshman Engineering Workshop (FEW), Minority Introduction to Technology and Engineering (MITE), Sophomores Exploring Engineering (SEE), and the Pre-college Engineering Program (PREP).

Georgia Tech challenges its students to set high goals for academic achievement. A comprehensive advising system for all students matches faculty with students within the same department and major. Student publications, newsletters, and brochures are available to students as guides to academic, cultural, and social programs on and off campus. Locations and times of study groups also can be obtained from student publications. The National Society of Black Engineers and the Society of Hispanic Professional Engineers both have campus chapters. The administration, faculty, and staff are committed to fully developing Georgia Tech's students. Retaining students through complete matriculation is a major goal of the institution.

### **Georgia Southern University**

**Dr. Harrison S. Carter, Vice President for Academic Affairs**

**Statesboro, GA 30460**

**Enrollment: 14,157**

**Highest Offering: Doctorate**

**tel: 912/681-5611**

**fax: 912/671-1309**

**homepage: <http://www.gasou.edu>**

### **About the Institution**

Georgia Southern University was established in 1906. It is a predominantly undergraduate university devoted to "teaching first." The University's breadth of nationally accredited academic programs in the liberal arts and professional studies attracts a state-wide enrollment of undergraduate students. As a University granting professionally-oriented doctoral degrees and an array of master's degrees designed to meet the needs of South

Georgia, Georgia Southern is cultivating a resident cadre of leaders with advanced education in critically-needed professions.

Recruitment practices are the same for every student regardless of race or ethnicity. No articulation agreements exist between community colleges and Georgia Southern for the purpose of recruiting minority students.

**Support Services and College Environment**

Although the Financial Aid Office has no specific scholarships that target minorities, all forms of financial aid are available to all students. The University has a tutorial center and offers tutorial opportunities and study skills for students in the mathematics, science, and engineering (MSE) fields. In addition to individual departmental assistance, the Career Placement Center assigns upper-class students to serve as advisors to incoming freshmen. The Career Affairs Office assists students with job placement during their junior and senior years. MSE faculty members and the Multicultural Affairs Coordinator support students as they matriculate at the University. Georgia Southern also sponsors a summer enrichment program for students who need to enhance study skills.

Peer support group counseling is available to any interested student. MSE faculty members serve as mentors and advisors to each MSE student. Georgia Southern provides formal study groups during the freshman and sophomore years and informal study groups during the junior and senior years. A number of MSE organizations are available for students to learn more about MSE fields outside of scheduled classes.

**Georgia State University**  
**Dr. Ronald J. Henry, Provost and Vice President for Academic Affairs**  
**University Plaza**  
**Atlanta, GA 30303**  
**Enrollment: 24,316**  
**Highest Offering: Doctorate**

tel: 404/651-2000  
fax: 404/651-3567  
homepage: <http://www.gsu.edu>

**About the Institution**

Georgia State University (GSU), located in Atlanta, was established in 1913. As a leading urban research institution, GSU has more than 200 fields of study that are offered through some 50 accredited degree programs at the



bachelor's, master's, specialist, and doctoral levels. Students may enroll in classes day or evening and in part-time or full-time study. Annually, nearly 35,000 students attend the University from all 50 states and 113 countries. The state's second largest institution of higher learning, the University has the most diverse student body in Georgia, with a minority enrollment of 32 percent.

GSU's Recruitment Office focuses its efforts in metropolitan Atlanta which has a large African American population. University recruiters and graduate students visit local high schools to recruit students. Georgia State University also works closely with two local community colleges in recruitment efforts. An articulation agreement allows the community college students to transfer to GSU and take classes at either campus.

### **Support Services and College Environment**

Georgia State University does not have specific minority financial aid programs. All students may seek financial aid through scholarships, grants, work study, and loans. The State of Georgia administers the Helping Outstanding Pupils Educationally (HOPE) Scholarship Program that provides tuition, fees, and a book allowance. Any Georgia resident who completes the high school preparatory program with at least a 3.0 grade point average (GPA) is eligible for the initial award. Awards are renewable each year if the student maintains a 3.0 cumulative GPA.

Both faculty and students participate in research projects supported by the National Institutes of Health, the U.S. Department of Education, and the State of Georgia. The Learning Support Programs Laboratory sponsors tutorial sessions for most courses offered at GSU.

Students seeking information about graduate schools and summer or full-time employment can inquire at the Office of Career and Job Search Services and the Office of Cooperative Education. Georgia State University's Chemistry Department has participated in the National Science Foundation's Young Scholars Program. This pre-college program exposed high school students to complex chemical equations and experiments.

Georgia State University is committed to creating an atmosphere of success for students by providing support groups, study groups, and academic and social organizations. In addition, students are assigned mentors to help them in course selection. Faculty members are available by appointment or regularly scheduled office hours, and student study groups can be found in each department.

**Morehouse College**  
**Dr. John Hopps, Provost and Vice President for Academic Affairs**  
830 Westview Drive SW  
Atlanta, GA 30314  
Enrollment: 2,884  
Highest Offering: Baccalaureate

tel: 404/681-2800  
fax: 404/681-2650  
homepage: <http://441.125.128.1:1025/mainhomepage.html>

### **About the Institution**

Morehouse College is a Historically Black College and is a part of the Atlanta University Center. The College was established in 1867 for the purpose of educating African American males and continues that purpose today. Morehouse utilizes test scores for recruiting and actively recruits through a number of secondary schools. The Office of Admissions utilizes both a proactive and reactive approach to recruiting new students. Community colleges are not a major recruitment focus, and there are no formal or informal articulation agreements with two-year institutions. Morehouse has established a pre-college, summer residential program that focuses on MSE areas for students in grades 8-12.

### **Support Services and College Environment**

Scholarships, financial aid, and work study grants are awarded to eligible students. Scholarships are merit-based and additional scholarships have been added that specifically target MSE fields. Research and tutorial opportunities now include MSE students as well. Faculty members serve as mentors, and student volunteers conduct study and tutorial sessions. The administrative offices and the faculty members of individual academic departments provide information on summer jobs, guidance, and academic counseling. A major goal of the College is to create an atmosphere of learning and cooperation between students and faculty members. Another goal is to provide adequate preparation for students entering graduate school.

Morehouse has an advisory system that allows freshman and sophomore deans in each department to act as advisors and mentors. In addition, MSE organizations assist Morehouse students during their matriculation. The College has expanded its efforts to attract MSE students by creating enhanced computer and telecommunication infrastructures and new interdisciplinary programs in the neuro- and geo-sciences.

**Spelman College**  
**Dr. Glenda D. Price, Provost**  
**350 Spelman Lane SW**  
**Atlanta, GA 30314**  
**Enrollment: 1,961**  
**Highest Offering: Baccalaureate**

**tel: 404/681-3643**  
**fax: 404/223-1428**  
**homepage: <http://www.auc.edu>**

### **About the Institution**

Spelman College is a private institution founded in 1881 in Atlanta for the education of Black women. The College is a member of the Atlanta University Center, a consortium of seven institutions. More than 40 percent of the applications received are for mathematics or science majors. Spelman does not have any specific recruitment efforts or programs to attract students in the mathematics and sciences. However, its reputation for academic excellence draws women from across the country.

### **Support Services and College Environment**

Spelman College participates in a NASA-supported program, Women in Science and Engineering (WISE). WISE scholars receive full tuition, room and board, books, and guaranteed summer employment. Almost every mathematics or science major receives some form of financial aid since most research and program development grants request funds for student support. One of the goals of the College is to ensure research experiences for every student. Faculty are encouraged to involve students in their research projects.

Academic departments and the Learning Resource Center organize tutorial sessions for students needing extra help. The Biology Department has developed a program for seniors that provides an opportunity for them to serve as teaching assistants. Juniors and seniors, who are identified by faculty as exceptional students, are hired as tutors for their peers. A number of faculty members are available to students outside of class and beyond scheduled office hours.

The Office of Career Planning and Development has a staff member whose primary responsibility is to advise students on graduate school opportunities, fellowships, and summer employment. At the pre-college level, the

Howard Hughes Summer Program for High School Students is a six-week, non-residential program targeting grades nine through eleven and focusing on mathematics and science. A continuing education program for high school mathematics and science teachers also is made possible through the Howard Hughes grant and the Center for Scientific Application of Mathematics.

Every Spelman student is assigned an advisor in her academic department. In addition, the College employs advisors for different student classifications (e.g., the Assistant Dean for freshmen and sophomores); advisors for different careers (e.g., health careers); and staff to identify and advise on special opportunities (e.g., the Director of the Office of Science, Engineering, and Technical Careers). A variety of academic and social organizations and clubs sponsor field trips; invite guest lecturers; run contests; conduct study groups; and organize cultural programs. Students perform significant community service by tutoring in the public schools and conducting science demonstrations. Faculty frequently serve as judges for local science fairs. Spelman College hopes to increase the number of mathematics, science, and engineering graduates and the number who go on to graduate school by enhancing student retention.

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## FEATURES\* OF SUPPORT SERVICES AND COLLEGE ENVIRONMENT

(Institutions are listed in rank order according to the number of MPSE Degrees Awarded to Minority Students in 1992-93)

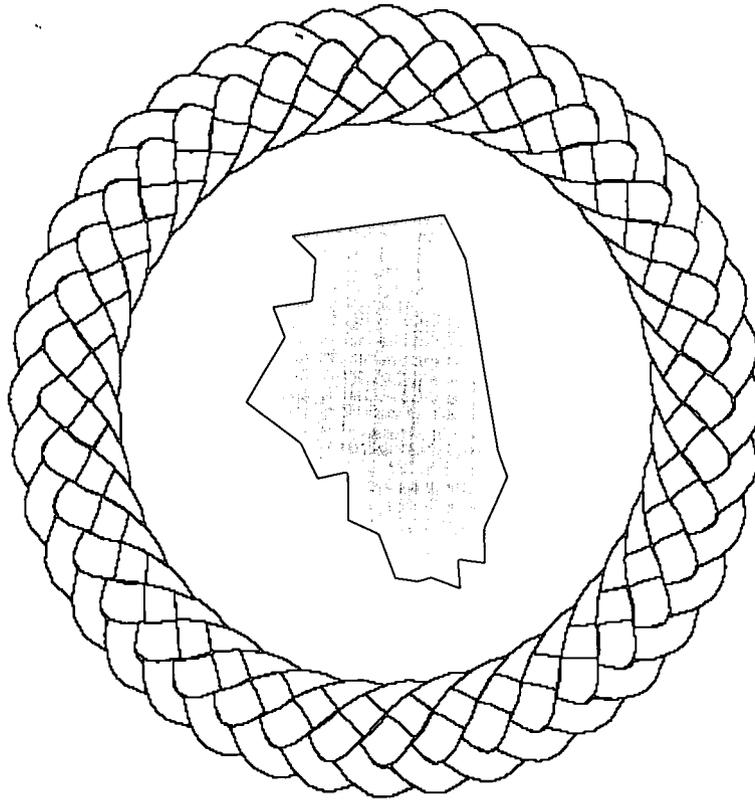
### GEORGIA

INSTITUTION	COMMUNITY OUT-REACH	SPECIAL RECRUITMENT	SPECIAL SCHOLARSHIPS	SPECIAL OFFICE	SPECIAL COUNSELORS	ACCESSIBLE FACULTY	SUMMER BRIDGE	SPECIAL TUTORING	STUDY GROUPS	MSE STUDENT ORGANIZATIONS	ONE ON ONE ADVISING	PEER TUTORS	OTHER
Georgia Institute of Technology	√	√	√		√			√	√	√	√		
Spelman College	√		√		√	√	√	√	√	√	√	√	Undergraduate Research
Southern College of Technology**													
Morehouse College	√		√		√	√		√		√			Undergraduate Research
Savannah State College**													
Clark Atlanta University**													
DeVry Institute of Technology**													
Georgia Southern University				√	√		√	√	√	√	√		
Fort Valley State University**													
Georgia State University	√	√			√	√			√				

\* - Based upon information provided in institutional responses to QEM survey

\*\* - Did not return survey

# Illinois



# ILLINOIS

"TOP TEN" INSTITUTIONS IN NON-ASIAN MINORITY MSE BACCALAUREATE DEGREES AWARDED, 1992-93  
(Ranked by number of degrees awarded in Mathematics, the Physical Sciences, and Engineering)

Institution	Mathematics, Physical Sciences, and Engineering	Life Sciences	Social Sciences	Total MSE Baccalaureate Degrees Awarded
Southern Illinois University at Carbondale	84	8	16	108
Devry Institute of Technology	67	0	1	68
University of Illinois at Urbana	61	34	63	158
University of Illinois at Chicago	41	25	38	104
Illinois Institute of Technology	37	0	0	37
Northwestern University	30	1	51	82
Chicago State University	20	9	48	77
Northern Illinois University	15	1	60	76
Illinois State University	12	1	41	54
Western Illinois University	8	2	0	10

Source: Unpublished data from the National Center for Education Statistics, U.S. Department of Education

- Notes: (1) Some states may not have 10 institutions listed because (a) there were fewer than 10 institutions in the state or (b) fewer than 10 institutions awarded degrees in mathematics, the physical sciences, and engineering to non-Asian minorities in 1992-93.
- (2) If institutions are ranked by the total number of MSE degrees awarded, the "top ten" list of institutions may vary.

## ILLINOIS

## Introduction

Illinois, with a 1990 population of approximately 11.4 million, ranks sixth in the nation in size of population and fourth in terms of higher education enrollment. It is home to approximately 4.8 percent of non-Asian minorities and enrolls 6.1 percent of non-Asian minority college students nationwide. Among the states chosen for QEM's survey,<sup>1</sup> Illinois ranks third in terms of size of African American college enrollment, and fifth in terms of Hispanic college enrollment.<sup>2</sup> Approximately 65 percent of the Illinois non-Asian minority population was African American in 1990, and this group accounted for 14.8 percent of the state's total population (see Table IL-I).

**Table IL-I**  
Illinois Population by Race/Ethnicity  
(in thousands)

1990	Total	African Americans	American Indians	Asians	Hispanics	Whites	Non-Asian Minority Population
Illinois Total Population	11,431	1,694	22	285	904	8,953	2,620
% of Illinois Population	100.0	14.8	0.2	2.5	7.9	74.6	22.9

Source: 1990 U.S. Census Data.

\* Quality Education for Minorities (QEM) Network, Washington, DC, 1996. "Statistical Profile of Illinois."

## MSE Degrees in Illinois

In 1992-1993, MSE baccalaureate degrees earned by non-Asian minorities in Illinois totaled 1,148, which is about 38 percent of the 3,050 degrees projected as the "fair share" for Illinois of NSF national goal (see Table IL-II). Only 24 non-Asian minorities received the Ph.D. degree in MSE fields in the state during the 1992-1993 academic year, just 20 percent the 122 projected as the "fair share" of NSF's goal for Illinois.

**Table IL-II**  
MSE Degrees Awarded in Illinois  
by Race/Ethnicity, 1992-1993

	Bachelor's	Master's	Doctorate
African Americans	747	67	9
American Indians	32	17	0
Asians	1,024	219	57
Hispanics	369	44	15
Whites	9,957	1,665	580
Total	12,129	2,012	661
Total Non-Asian Minorities	1,148	128	24
% of Degrees Awarded to Non-Asian Minorities	9.5	6.4	3.6

Source: Unpublished data from U.S. Department of Education, National Center for Education Statistics.

## Illinois Institutional Responses

Six of the 10 institutions in Illinois that received survey questionnaires from QEM responded: Chicago State University, Illinois State University, Northwestern University, Southern Illinois University at Carbondale, University of Illinois at Chicago, and University of Illinois at Urbana-Champaign. Summary information on these universities and their survey responses follow.

**Chicago State University**  
**Dr. Chernoh M. Sesay, Provost/Vice President for Academic Affairs**  
**9501 South King Drive**  
**Chicago, IL 60628**  
**Enrollment: 9,103**  
**Highest Offering: Master's**

**tel: 312/995-2400**  
**fax: 312/995-2563**  
**homepage: <http://www.csu.edu>**

### About the Institution

Chicago State University was founded in 1867 as an experimental teacher training school, and has evolved into a multipurpose institution committed to meeting the needs of the urban community. The University is a fully accredited, public, urban, commuter and residential institution. It offers graduate programs in arts and sciences and education, and undergraduate programs in allied health, arts and sciences, business, education, and nursing. In addition to degree programs, the University offers many courses and programs of study for in-service education through late afternoon, evening, and Saturday classes, summer sessions, and extension courses.

The University recruits heavily on the South Side of Chicago as a result of the combination of its dedication to serving the community and geographical location. CSU has informal articulation agreements with community colleges that enroll large numbers of minority students.

### Support Services and College Environment

The University raises much of its scholarship funding through local business and industry. In addition, Chicago State University has developed good relationships with Argonne and Fermi Labs, both of which support MSE

students at the University. MSE departments and student services at CSU provide tutorials and support services for students needing help. A pre-college program that emphasizes MSE fields targets ninth through twelfth grade students in Chicago. The Alliance for Minority Participation (AMP) program at CSU seeks to increase the number of underrepresented minority students receiving MSE degrees.

CSU is committed to providing quality advisement through university-wide coordination and training for faculty and staff. Several MSE clubs and organizations are available to students on campus that support students in continuing their MSE studies. A number of MSE programs are funded and used in conjunction with minority or community outreach activities. Chicago State University is located in a large metropolitan area and focuses on local students to expand its recruitment and retention efforts of minority students in MSE disciplines.

**Illinois State University**  
**Dr. John Urice, Vice President and Provost**  
**Normal, IL 61761**  
**Enrollment: 19,294**  
**Highest Offering: Doctorate**

**tel: 309/438-2111**  
**fax: 309/438-2768**  
**homepage: <http://www.ilstu.edu>**

### **About the Institution**

Founded in 1857, Illinois State University was the first public university in the state and is one of the Midwest's oldest institutions of higher education. Its motto, "Gladly We Learn and Teach," reflects its traditional commitment to educational excellence. It is a student-centered, multipurpose institution committed to providing high quality undergraduate and graduate programs. The central mission of the University is to expand the horizons of knowledge and culture among students, colleagues, and the general citizenry through teaching and research. The University recruits minority students from local high schools and area community colleges. The Minority Professional Opportunity Program is available for minority students with high academic achievement.

### **Support Services and College Environment**

Grants, scholarships, and loans are available for eligible students. The University supports informal student study groups, departmental advising, and placement of interns with chemical industrial firms in order to

support the advancement of MSE students. The University also sponsors undergraduate and graduate research and teaching assistantships. Illinois State University recognizes that teaching and research are mutually supportive activities; therefore, while developing student potential through superior teaching is the first priority, the promotion of research which is recognized at national and international levels also is a high priority.

The University is committed to expanding student involvement in learning through the provision of outstanding campus-life programs and activities. Although advising is centralized for freshmen, all students may participate in departmental or peer tutoring and study sessions. Illinois State University has an agreement with the University of Illinois for the latter institution to offer pre-engineering courses to Illinois State University students, since engineering is not offered at Illinois State University.

**Northwestern University**  
**Dr. Lawrence Dumas, Provost**  
**633 Clark Street**  
**Evanston, IL 60208**  
**Enrollment: 15,162**  
**Highest Offering: Doctorate**

**tel: 708/491-3741**  
**fax: 708/491-7973**  
**homepage: <http://www.acns.nwu.edu>**

### **About the Institution**

Northwestern University was established in 1851 to serve the people of Northwest Territory. In 1853, the founders purchased a 379-acre tract of farmland along Lake Michigan 12 miles north of Chicago. After completing its first building in the fall of 1855, Northwestern opened its doors with 2 faculty and 10 students. By 1900, Northwestern was composed of seven graduate and undergraduate schools with 2,700 students and an annual budget of more than \$200,000. Today, Northwestern is a major private research university with an annual budget of more than \$800 million, about 5,650 employees, and more than 17,000 students enrolled in 12 academic divisions on two lakefront campuses. The University does not presently have specific programs that focus on minority student recruitment.

## Support Services and College Environment

During the summer, a pre-college residential program is offered for high school students interested in mathematics and the sciences. Northwestern University also has a summer outreach program in its Engineering School. Tutorial services are available through individual departments to MSE students.

MSE departments at Northwestern offer summer enrichment programs as well as informal study groups and MSE-oriented student organizations. The University also is developing minority- and community-focused outreach activities. Northwestern plans to formulate and implement programs that attract, retain, and graduate more minority students in the MSE fields.

### **Southern Illinois University at Carbondale**

**Mr. Benjamin A. Shepherd, Vice President Academic Affairs/Provost**  
Carbondale, IL 62901

**Enrollment: 22,418**

**Highest Offering: Doctorate**

**tel: 618/453-2121**

**fax: 618/453-3000**

**homepage: <http://www.siu.edu/cwis>**

### **About the Institution**

Southern Illinois University at Carbondale was established in 1869 as a state supported school. In 1985, the University established the Minority Engineering Program (MEP) to increase the number of African Americans, Hispanics, and Native Americans in the engineering profession. In order to increase the number of minority MSE students, recruiters present the exceptional opportunities available in engineering to potential students at high schools and community colleges. The enrollment of minorities in engineering has increased from 3.6 percent in Fall 1985 to more than 13.5 percent in Fall 1995. The College of Engineering has articulation agreements with more than 50 community colleges in Illinois. However, only a very small percentage of these community colleges supply significant numbers of minority transfer students.

## Support Services and College Environment

Special scholarships are available for minority students at the University. The MEP allocates more than one-half of its annual budget to scholarships. MEP staff also work with staff in the Financial Aid Office and with students to maximize the number of individuals receiving the level of support needed to pursue an engineering degree. Every student has the opportunity to work with a faculty member on a research project. Junior and senior students with good academic records often are asked to work for the Minority Engineering Program's tutoring center and for the Summer Introduction to Engineering Program. Minority students also participate in summer internship programs. The University Career Services and MEP work with industries nation-wide to locate summer internships for minority students. In addition, the MEP conducts a one-week residential program for sophomore and junior high school students.

Each department has full-time advisors who handle matters related to program recruitment and placement. Departmental faculty members serve as counselors and advisors. These individuals are available to advise students on academic, personal, and professional matters. Formal and informal student study groups are in place for courses in calculus, chemistry, and physics to help provide academic support to students. The organizations Blacks in Engineering and Allied Technologies and the Society of Hispanic Engineers both support minority students. The College of Engineering places high priority on the recruitment and retention of minority students.

**The University of Illinois at Chicago**  
**Dr. David Broski, Interim Chancellor/Provost**  
**601 S. Morgan - M/C 102**  
**Chicago, IL 60607**  
**Enrollment: 25,040**  
**Highest Offering: Doctorate**

tel: 312/413-7000  
fax: 312/413-3393  
homepage: <http://www.uic.edu>

### About the Institution

The University of Illinois at Chicago (UIC) is the largest institution of higher education in Chicago area, one of the top research universities in the United States, and dedicated to the land grant university tradition of research,

teaching, and public service. The University actively recruits students from the Chicago metropolitan area and encourages students to make campus visits in order to learn more about the University. The University works with the Community College Transfer Center and Latin American Recruitment (LARES) to recruit minority students. The campus is 30 percent minority, with African American and Latino students comprising the largest minority groups.

### Support Services and College Environment

The Abraham Lincoln Fellowship, scholarships, and loans are available to students with demonstrated need as part of a financial aid package. Preliminary evaluation of scholarship programs indicates there is a higher retention rate for students who receive financial support. Both peer and faculty tutoring are available for students in the mathematics, science, and engineering areas. UIC honors students tutor students in all subjects. Students interact and work with university faculty from their sophomore to senior years on various research topics. The Alliance for Minority Participation (AMP) Program also sponsors a number of programs and research assignments. The Office of Career Services, Engineering CO-OP Office, and the Big Ten Program provide graduate school information and advice and counseling to students.

A number of pre-college programs are funded by external grants to support minority students. These include: Summer Trek, Institute for Math and Science Education, Preparation for Majoring in Engineering (Prep-ME), and GTE-UIC Engineering Institute. A Chemistry van that visits area schools is a part of community outreach from the University to the community.

The College of Engineering provides individual advising to all matriculated students. The African American Academic Network and LARES provide support, tutoring, and counseling for minority students. In addition, a number of clubs for MSE majors have local campus chapters, including the Minority Engineers Program, the Society of Women Engineers, the National Society of Black Engineers, and the Society of Hispanic Professional Engineers. University of Illinois at Chicago is continuing its efforts to recruit and retain minority students.

**University of Illinois at Urbana-Champaign**  
**Dr. Larry R. Faulkner, Provost/Vice Chancellor Academic Affairs**  
**Urbana, IL 61801**  
**Enrollment: 36,465**  
**Highest Offering: Doctorate**

**tel: 217/333-1000**  
**fax: 217/339-9758**  
**homepage: <http://www.uidc.edu>**

### **About the Institution**

The University of Illinois at Urbana-Champaign was established in 1867. In addition to campus visits, mailings, telephone calls and on-site application workshops, the school has an array of programs that support the recruitment of minority students. The Broad Horizons Program, sponsored by the College of Applied Life Sciences, recruits minorities from Chicago for Community Health, Kinesiology, Leisure Studies, and Speech and Hearing Science. In the Peer Recruitment Program, minority students at the university visit their former high schools to recruit students and assist with the on-campus visitation programs. The Illinois Minority Science Internship Program, in the College of Agriculture, aims to increase awareness of programs in science and agriculture, and seeks to augment the number of transfer students from community colleges who enter the University. In addition, the Multicultural Enrollment Committee recruits minority students by visiting high schools, community colleges, and community service agencies. The College of Education and the Office for Cultural Diversity have developed programs to support minority students once they get to the institution.

The University of Illinois at Urbana-Champaign also has several pre-college programs. The Minority Introduction to Engineering (MITE) Program, sponsored by the College of Engineering, is designed to help minority high school students become familiar with the engineering profession, and the Principal's Scholars Program (PSP) identifies promising minority students in Illinois for scholarship support. PSP is co-sponsored by the University of Illinois, 20 corporations, and 46 participating secondary schools. Yet another program, the Transition Summer Bridge Program, sponsored by the College of Liberal Arts and Science, provides academic support to high school students for two years. After completing the program, the students are eligible for admission to the University. In addition, Upward Bound allows minority high school students to get experience in scientific aspects of engineering, agriculture, and animal health, and the Illinois Minority Pre-college Internship Program (IMPRINT) provides summer employment for high school students at an engineering related corporation.

## Support Services and College Environment

The Minority Affairs Program of the College of Veterinary Medicine assists in the retention of minority students, while the Minority Student Retention Program in the Agriculture Department offers minority enrichment and merit scholarships. The National Achievement Scholarship Program for outstanding African American students, the University of Illinois Scholarship Program, and the American Indian Fellowship Program for graduate school are sources of financial aid available to minority students. The President's Award Program provides four-year, need-based scholarships for eligible students.

The MSE departments, the Educational Opportunities Program, and the Academic Support Services assist students through tutorial programs. The President's Leadership Program is a summer internship for minorities, and the Ronald E. McNair Post-baccalaureate Achievement Program is designed to increase the number of minorities in graduate school. Undergraduates and graduates have access to 63 companies and 160 employment matching services via the Multicultural Career Conference Center. The Minority Affairs Program for engineering offers peer counseling, course enrichment, study skills sessions, financial counseling, and annual awards and recognition.

The pre-college programs are an excellent example of the University's commitment to the community. The Academic Assistance Program was formed to enhance minority achievement, success, and retention. The Office of Minority Student Affairs and the Academic Assistance Program provide counseling and monitor the academic progression and adjustment of students to campus life. The University of Illinois at Urbana-Champaign plans to continue its efforts to recruit and retain minority students in MSE fields.

# FEATURES\* OF SUPPORT SERVICES AND COLLEGE ENVIRONMENT

(Institutions are listed in rank order according to the number of MPSE Degrees Awarded to Minority Students in 1992-93)

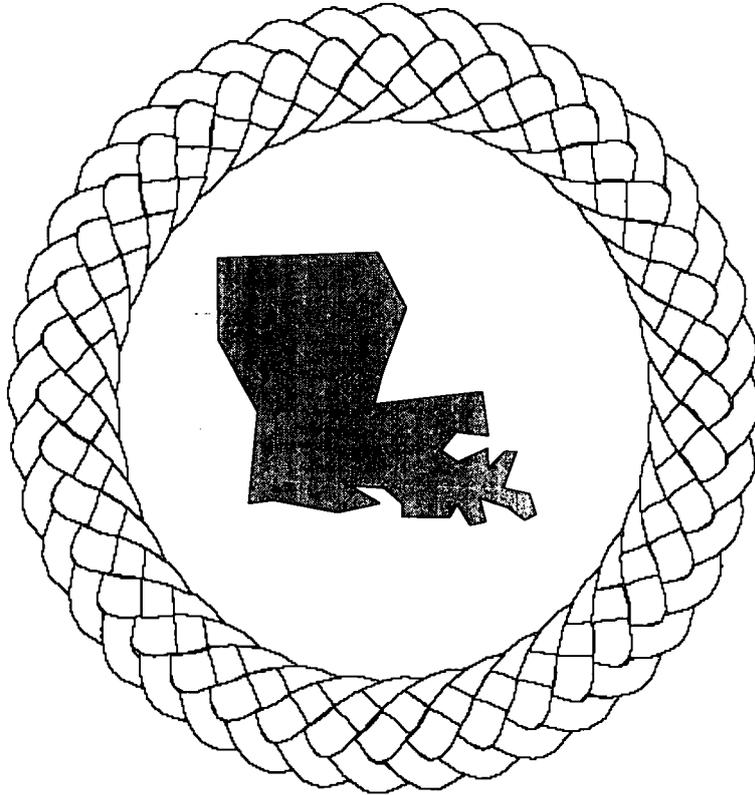
## ILLINOIS

INSTITUTION	COMMUNITY OUT-REACH	SPECIAL RECRUITMENT	SPECIAL SCHOLARSHIPS	SPECIAL OFFICE	SPECIAL COUNSELORS	ACCESSIBLE FACULTY	SUMMER BRIDGE	SPECIAL TUTORING	STUDY GROUPS	MSE STUDENT ORGANIZATIONS	ONE ON ONE ADVISING	PEER TUTORS	OTHER
Southern Illinois University at Carbondale	√	√	√			√	√	√	√	√	√	√	Undergraduate Research
Devry Institute of Technology**													
University of Illinois at Urbana	√	√	√	√	√		√	√					
University of Illinois at Chicago	√	√	√	√	√			√		√		√	Undergraduate Research
Illinois Institute of Technology**													
Northwestern University							√	√	√	√			
Chicago State University	√	√	√				√	√		√			
Northern Illinois University**													
Illinois State University		√						√	√		√	√	Undergraduate Research
Western Illinois University**													

\* - Based upon information provided in institutional responses to QEM survey

\*\* - Did not return survey

# Louisiana



# LOUISIANA

## "TOP TEN" INSTITUTIONS IN NON-ASIAN MINORITY MSE BACCALAUREATE DEGREES AWARDED, 1992-93 (Ranked by number of degrees awarded in Mathematics, the Physical Sciences, and Engineering)

Institution	Mathematics, Physical Sciences, and Engineering	Life Sciences	Social Sciences	Total MSE Baccalaureate Degrees Awarded
Southern University, Baton Rouge	122	15	74	211
Xavier University	43	96	38	177
Grambling State University	37	41	50	128
Louisiana State University	28	18	29	75
Southern University, New Orleans	19	5	14	38
Dillard University	18	20	12	50
Tulane University	15	22	38	75
University of Southwestern Louisiana	14	2	6	22
University of New Orleans	14	4	22	40
McNeese State University	9	0	3	12

Source: Unpublished data from the National Center for Education Statistics, U.S. Department of Education

Notes: (1) Some states may not have 10 institutions listed because (a) there were fewer than 10 institutions in the state or (b) fewer than 10 institutions awarded degrees in mathematics, the physical sciences, and engineering to non-Asian minorities in 1992-93.

(2) If institutions are ranked by the total number of MSE degrees awarded, the "top ten" list of institutions may vary.

## LOUISIANA

### Introduction

Louisiana, with a 1990 population of approximately four million, ranks 21st in the nation in size of population and 24th in terms of higher education enrollment. It is home to approximately 2.5 percent of the non-Asian minority population and enrolls 2.2 percent of non-Asian minority college students nationwide. In 1990, African Americans represented 92 percent of the non-Asian minority population in Louisiana\*. As Table LA-I shows, non-Asian minorities accounted for more than one-third of the population of Louisiana in that year.

**Table LA-I**  
Louisiana Population by Race and Ethnicity  
(in thousands)

1990	Total	African Americans	American Indians	Asians	Hispanics	Whites	Non-Asian Minority Population
Louisiana Total Population	4,220	1,299	19	41	93	2,768	1,411
% of Louisiana Population	100.0	30.8	0.5	1.0	2.2	65.6	33.4

Source: 1990 U.S. Census Data.



\* Quality Education for Minorities Network, Washington DC, 1996. "Statistical Profile of Louisiana."

## MSE Degrees in Louisiana

In 1992-1993, 931 MSE bachelor's degrees and seven MSE doctorates were awarded to non-Asian minorities in Louisiana. The total of 931 MSE baccalaureate degrees earned by non-Asian minorities is 85 percent of the 1,100 projected as Louisiana's "fair share" of NSF's national goal. However, the seven doctorates received by non-Asian minorities represent only 16 percent of the 44 doctorate degrees projected as Louisiana's "fair share."

Table LA-II  
MSE Degrees Awarded in Louisiana by Race/Ethnicity, 1992-1993

	Bachelor's	Master's	Doctorate
African Americans	836	23	1
American Indians	9	1	0
Asians	104	45	14
Hispanics	86	10	6
Whites	2429	269	86
Total	3464	348	107
Total Non-Asian Minorities	931	34	7
% of Degrees Awarded to Non-Asian Minorities	26.9	9.8	6.5

Source: Unpublished data from U.S. Department of Education, National Center for Education Statistics.

## Louisiana Institutional Responses

Nine of 10 higher education institutions that received survey questionnaires from QEM responded: Dillard University, Louisiana State University and Agricultural and Mechanical College, McNeese State University, Southern University and Agricultural and Mechanical College at Baton Rouge, Southern University at New Orleans, Tulane University, University of New Orleans, University of Southwestern Louisiana, and Xavier University of Louisiana. Summary information on these universities and their survey responses follow.

### Dillard University

**Dr. Henry C. Lacey, Vice President for Academic Affairs**

**2601 Gentilly Boulevard**

**New Orleans, LA 70122**

**Enrollment: 1,675**

**Highest Offering: Baccalaureate**

**tel: 504/283-8822**

**fax: N/A**

**homepage: <http://www.dillard.edu>**

### About the Institution

Dillard University was established in 1869 through the merger of New Orleans University and Straight University. The University's primary mission is to provide a high quality liberal arts education to its students through a rigorous program of academic instruction, research, and experimental learning. Dillard has more than 1,500 students enrolled in its six divisions: Business and Economics, Natural Sciences, Humanities, Social Sciences, Education, and Nursing.

In addition to the staff in the Office of Enrollment Management and Admissions, all faculty members are viewed as recruiters. Dillard also maintains informal articulation agreements with Delgado and Nunez Community Colleges to assist students in the transition from a two-year college to a four-year institution.

### Support Services and College Environment

Dillard University offers three pre-college programs that target students in grades three through twelve. The first is the Dillard University Saturday Science Academy (SSA) that enrolls 250 public and parochial students in grades

three through eight. The program is designed to improve minority student access to careers in science and engineering through a comprehensive 20-week initiative. The second program, the Pre-Engineering Program (PREP), targets sixth through 10th graders. The Pre-College Summer Transition Program (STP) facilitates the transition of high school juniors, seniors, and recent high school graduates into the college experience.

Financial support in the form of scholarships and other aid is offered through the Office of Admissions and the Office of Financial Aid. The Office for Special Services has a Learning Laboratory where students are tutored in chemistry, mathematics, and physics.

Dillard University faculty members encourage students to seek summer internships and research opportunities. All announcements regarding summer internships and opportunities are compiled into a list of opportunities that is posted on appropriate bulletin boards. Brochures and applications are duplicated and distributed to interested students.

Each student at Dillard University has a designated academic advisor. Extracurricular activities are focused on clubs that allow students with similar interests and academic programs to socialize and discuss academics. Formal and informal study groups also review material in most courses.

**Louisiana State University and Agricultural and Mechanical College**  
**Dr. William L. Jenkins, Vice Chancellor for Academic Affairs/Provost**  
**Baton Rouge, LA 70803**  
**Enrollment: 25,317**  
**Highest Offering: Doctorate**

tel: 504/388-3202  
fax: 504/388-6400  
homepage: <http://unix1.sncc.lsu.edu>

### About the Institution

Louisiana State University (LSU), established in 1861 and located in Baton Rouge, serves as the state's flagship institution. The University offers programs leading to bachelor's degrees in 75 fields, master's degrees in 77 fields, and doctoral degrees in 56 fields. LSU's recruiting efforts begin at the departmental level. The Department of Chemistry has been particularly successful at recruiting minority students into its graduate program. The College of Basic Sciences sends undergraduate students to interact with students at various high schools and maintains

close contact with the local school system. The Department of Mathematics advertises in appropriate journals and specifically targets Historically Black Colleges and Universities for graduate recruitment.

The College of Engineering has an active Minority Engineering Program (MEP) that is funded by grants from various companies. The purpose of the program is to recruit, retain, and graduate as many minority students as possible. MEP's primary project is the summer Recruitment into Engineering of High Ability Minority Students (REHAMS) program, a one-month, residential experience for approximately 20 minority students who have just completed the 11th grade. The students are exposed to academic materials in English, mathematics, and computer science courses; speakers from the industry; and field trips to nearby industrial sites. This high profile effort also promotes a positive image of engineering and the University in the participating students' home communities.

In addition, the Department of Mathematics has close ties with its counterpart at Southern University at Baton Rouge and receives many minority students from other universities due to LSU's reputation for success. The College of Engineering has articulation agreements with community colleges that target minority students.

### **Support Services and College Environment**

LSU offers a number of financial and academic support services to its minority students. At the university level, the Chancellor's Alumni Scholarship Committee recruits highly qualified minority students for LSU's Best Scholarship Award. The Outstanding Mathematics Major Award and the Outstanding Graduate Teaching Assistantship Award are sponsored by the Department of Mathematics for students who excel in mathematics. The College of Engineering also offers scholarships to minority students totaling approximately \$15,000 per year from an endowed donation. Several of the industrial companies who help fund the MEP also offer scholarship opportunities for minority students.

Academic opportunities at LSU include an eight-week, National Institutes of Health's Minority High School Apprentice Program sponsored from 1986 to 1995 by the College of Basic Sciences to encourage research participation among Baton Rouge area minority high school juniors and seniors. The Department of Mathematics provides students the opportunity to tutor fellow students and sponsors the McNair Mentors Program. Students in the College of Engineering's MEP may enroll in an introductory course that provides information on all of the services available on campus. In addition, the course provides students with the opportunity to meet one another, schedule future courses together, form study groups, and become acquainted with the MEP Director.

The College of Basic Sciences, in conjunction with the Louisiana Alliance for Minority Participation (LAMP), provides summer research opportunities for students and specifically encourages minority students to consider graduate work in mathematics, science, and engineering. In the LSU Department of Mathematics, faculty advisors

and the Associate Department Chair counsel and advise students on graduate school and summer opportunities. The MEP Director counsels and advises minority students in the College of Engineering on graduate school opportunities, summer jobs, and career choices.

The Colleges of Engineering and Basic Sciences provide informal and formal study groups for students. They have designated a room in the main engineering building where minority students can work together if they wish. Also, they have provided a graduate tutor who works with students. The Department of Mathematics offers formal and informal study groups for its students. In addition, students receive departmental tutoring in classes not covered by the Learning Assistance Center. In addition, on-campus organizations such as the National Society of Black Engineers and the National Mathematics Honorary Society help instill a sense of belonging and professional development in students.

The College of Basic Sciences sponsors a community outreach effort in conjunction with the Evelyn Daniels Foundation that is focused on science courses for elementary school teachers, including many minority teachers. The College's plans to recruit, retain, and graduate more minority students involve expanding the LAMP program—currently in its first year with 18 participants—into a five-year program with 20 students per year. The Department of Mathematics plans to expand its efforts to recruit, retain, and graduate more minority students by increasing its community outreach activities in K-12 classes in local schools.

**McNeese State University**  
**Dr. James M. Brown, Jr. , Vice President for Academic Affairs**  
**4100 Ryan Street**  
**Lake Charles, LA 70609**  
**Enrollment: 8,729**  
**Highest Offering: Master's**

tel: 318/475-5000  
fax: 318/475-5012  
homepage: <http://www.mcneese.edu>

### About the Institution

McNeese State University (MSU) serves the educational needs of eight parishes in Southwest Louisiana. It is the only university located in the southwestern corner of the state, and it maintains an open admissions policy. At both the baccalaureate and master's level, MSU places strong emphasis on the sciences.

The University's proximity to oil, gas, petro-chemical, and related industries, coupled with environmental concerns, places it in a position to address economic and quality of life issues. The Louisiana Board of Regents has urged the University to continue to provide programs and research in engineering, environmental studies, and related sciences and technologies.

### **Support Services and College Environment**

MSU has a designated staff person who is responsible for recruiting minority students. With external support, the University conducts a residential program for high school students that operates during the summer and the academic year. MSU faculty also teach a college level course for minority 12th grade students from a local high school.

Minority faculty members have formed an informal organization through which they provide support for minority students. In addition, the university has a special advisor for minority freshmen. Academic support includes informal study groups and tutorials in mathematics and science provided by Student Services. Student organizations also offer support sessions for students who need extra help in mathematics or science.

Community outreach efforts include faculty involvement with minority high school students and community groups as well as college courses provided to minority high school students. The University intends to continue and expand services to attract, retain, and graduate more minority students, particularly in MSE fields.

### **Southern University and Agricultural and Mechanical College at Baton Rouge**

**Dr. Gerald C. Peoples, Vice Chancellor for Academic Affairs**

**Baton Rouge, LA 70813**

**Enrollment: 9,904**

**Highest Offering: Doctorate**

**tel: 504/771-4500**

**fax: 504/771-2018**

**homepage: <http://www.subr.edu>**

### **About the Institution**

Southern University and A&M College at Baton Rouge (SUBR) was founded in 1880 and currently enrolls 9,500 students. The University has established an intensive program, the Timbuktu Academy, which focuses on students in mathematics, science and engineering (MSE) fields.

The Timbuktu Academy is a recruitment, advisement, mentoring, support, guidance, and research participation program for undergraduate and pre-college scholars in MSE fields. The Academy currently supports 100 undergraduate scholars through its Undergraduate Research Program (URP).

### Support Services and College Environment

Every scholar receives research support stipends in addition to a tuition waiver. The URP of the Timbuktu Academy works very closely with the Honors College at SUBR. MSE faculty members provide scientific advisement and tutoring to all scholars throughout the academic year. In addition to the committed MSE faculty members at SUBR, scientists and engineers at federal, industrial and university research laboratories across the country help MSE students during their matriculation. The funding sources of the Academy include private and public laboratories that engage Academy Scholars in paid research activities.

The Timbuktu Academy has four programs including: the Undergraduate Research Program (URP); the residential Summer Bridge Institute (SBI) for 30 high school graduates; the residential Summer Science Institute (SSI) for 50 rising high school seniors; and the Educational Services Program (ESP) for hundreds of pre-college students and the community at large.

Objectives of the Timbuktu Academy are to 1) produce well-trained MSE graduates and guide these graduates to Ph.D. degree programs; 2) produce new knowledge through the research of mentors and Undergraduate Scholars; and 3) deliver professional and educational services to local and national communities.

The Research Careers for Minority Scholars (RCMS), supported by the National Science Foundation, and the Engineering, Physics, and Chemistry sub-programs are the largest components of URP. Pre-college programs for middle and high school students are the keys to encouraging minority students to enter MSE fields.

**Southern University at New Orleans**  
**Dr. Melinda Bartley, Vice Chancellor for Academic Affairs**  
**6400 Press Drive**  
**New Orleans, LA 70126**  
**Enrollment: 4,507**  
**Highest Offering: Master's**

**tel: 504/286-5000**  
**fax: 504/286-5131**  
**homepage: N/A**

### **About the Institution**

Southern University at New Orleans (SUNO) is an open-enrollment state university that has served the needs of Louisiana, especially the Greater New Orleans area and Southern Mississippi, since 1959. SUNO's original mission was to serve African American students. Its current mission is to serve socio-economically disadvantaged groups in the region.

Recruitment efforts at SUNO are led by the Office of High School Relations that provides information and counseling to college-bound students and junior college transfer students. The University maintains a formal articulation agreement with Delgado Community College and provides tuition waivers and scholarships for associate degree recipients.

Through the Louisiana Alliance for Minority Participation grant, the University offered a five-week program for elementary and middle school teachers in Summer 1996. Also, the University has funding for young minority men participating in the University's GED Outreach Program.

### **Support Services and College Environment**

The Office of High School Relations is responsible for identifying scholarship applicants and for coordinating the submission of scholarship applications for consideration by the University Scholarship Committee. The Office also coordinates the Concurrent Enrollment Program.

Despite the University's limited research opportunities, students are enthusiastically encouraged to participate. Several mathematics majors participate in summer research programs. Students also work as tutors during the academic year and summer. In addition, several off-campus research internships are available to students. Tutorial assistance is offered by the Departments of Chemistry, Physics, and Mathematics as well as by Student Services.



Departments distribute information regarding summer, career and graduate school opportunities. Also, maintain one-on-one contact with majors and graduating seniors. The Office of Career Counseling and Placement also provides students with information on career and summer opportunities.

The University works closely with students through departmental advising, departmental seminars for majors, and social events involving departmental faculty and students. Formal, informal, and departmental study groups are available, and special study groups are formed for the departmental exit examination in mathematics.

Students can join various mathematics, science, and engineering-oriented student organizations in biology and engineering, including the Beta Kappa Chi Honorary Scientific Society and the Beta Beta Beta Biological Honor Society.

SUNO plans to continue to expand its current effort to attract, retain, and graduate more minority students, particularly in mathematics, science, and engineering. Examples of this effort include a new state-of-the-art laboratory for mathematics students. The laboratory will serve as a tutoring center for practice and hands-on activities.

Funds are available to increase minority participation in the biological sciences. An outreach program has been created that is designed to 1) attract, stimulate, and fortify an interest in science at the pre-college level through K-12 teacher enhancement programs that focus on how to teach life sciences to elementary and middle school students; and 2) re-capture and stimulate the interest of minority men in biological and biomedical sciences. One goal is to have SUNO students pursue professions that will allow them to give back to the community and serve as role models to influence and stimulate an interest in science in young minority students.

SUNO intends to increase on-campus research programs and establish articulation agreements with the Louisiana State University Medical School and School of Dentistry in order to augment its effectiveness in recruiting and maintaining minority MSE students.

**Tulane University**  
**Dr. James F. Kilroy, Provost**  
**New Orleans, LA 70118**  
**Enrollment: 11,158**  
**Highest Offering: Doctorate**

**tel: 504/865-5000**  
**fax: 504/865-5202**  
**homepage: <http://www.tulane.edu>**

### **About the Institution**

After the yellow fever epidemic of 1832-33 in New Orleans, seven young physicians banded together to form the Medical College of Louisiana, later renamed Tulane University. The University has projects that address a range of issues and challenges such as homelessness, environmental toxins, rain forest preservation, cancer eradication, global business diversification, and international litigation.

### **Support Services and College Environment**

In recruiting minority students, Admissions Office staff members attend college fairs, visit high schools, conduct financial aid workshops, and are involved in the National Scholarship Service for African American Students and the National Hispanic Institute. The Engineering Dean's Office participates in COSMIC, a program designed to identify seventh and eighth grade females who demonstrate mathematics and scientific aptitude. COSMIC seeks to instill and maintain excitement and interest in MSE and to encourage young girls to take courses that will prepare them for admission to engineering.

Financial support, crucial to retaining minority students, is provided primarily through two scholarships: the Dean's Honor Scholarship, which awards full tuition for four years to those students who maintain a 3.0 GPA, and the Founders Scholarship, which awards \$10,000 for four years to those with a 2.7 GPA. Tulane also offers need-based financial aid, national merit and national achievement scholarships, and private scholarships. The Biology Department offers students the opportunity to be employed as research assistants during the summer. The Career Counseling Office also assists students seeking graduate and internship opportunities. Undergraduate MSE research opportunities are available through an eight-week summer program funded by the Louisiana Alliance for Minority Participation (LAMP).

Tulane offers a number of academic, social, and professional support programs. For example, the Department of Engineering provides access to formal, informal, and departmental study groups, tutorials, support sessions, and other student services. The School of Engineering employs a full-time, professional counselor to assist students in transition from high school to the freshman engineering program. The Engineering Department faculty schedule informal meetings during the freshman year to allow students to voice academic concerns. The objective is to assist students in overcoming fears about seeking assistance from the University and its departmental support structures. The Office of Multi-Cultural Affairs co-sponsors study skills sessions and a variety of career development, internship, and graduate school opportunity programs. The University also is host to local chapters of professional MSE organizations that enhance professional development, mentoring, and networking. In addition, student chapters of national organizations, such as the National Society of Black Engineers, provide student assistance.

The Biology Department offers research assistant positions to sophomores. Academic support options include informal study groups through Women in Science and tutorials through the Education Resource Center.

Tulane's heavy involvement in research offers freshmen the opportunity to be matched with faculty researchers. As students progress, the research can become increasingly more sophisticated. By the end of their senior year, many students have been involved in work that can lead to scientific publications. All seniors complete a senior honors' program that includes significant research subjects and strategies.

The Office of Multi-Cultural Affairs is a member of a consortium of local colleges, universities, and community colleges concerned with recruitment and retention of minority students. In addition, the Campus Affiliates Program funds community outreach to increase the educational and economic opportunities for low-income public housing residents. Planned programs include after-school tutoring and mentoring in English, science, and mathematics; adult literacy; and the cultural arts.

**The University of New Orleans**  
**Dr. Louis V. Paradise, Vice Chancellor for Academic/Student Affairs and Provost**  
**Lake Front**  
**New Orleans, LA 70148**  
**Enrollment: 15,513**  
**Highest Offering: Doctorate**

**tel: 504/286-6000**  
**fax: 504/286-6872**

### **About the Institution**

The Louisiana State University in New Orleans was established by the Louisiana Legislature in 1956 to bring public-supported higher education to the state's largest urban community. In 1958, the Louisiana State University in New Orleans was renamed the University of New Orleans (UNO). By 1962, the University was a full-service, four-year, degree-granting institution.

UNO offers a wide variety of baccalaureate programs in the arts, humanities, sciences, and in the professional areas of business, education, engineering, and the social sciences. Several graduate programs are offered at the University, including doctoral programs in chemistry, education, financial economics, political science, psychology, and urban studies.

### **Support Services and College Environment**

The University of New Orleans is dedicated to recruiting minority students. The Office of Admissions has two staff members who focus on the recruitment of African American and Hispanic American students. To attract minority students, UNO has established a program for recent high school graduates, PREPSTART, which allows them to attend UNO during the summer and enroll in college preparatory classes. Students who successfully complete the program can enroll in the University for the fall semester.

In addition, the University's College Life Program provides academic assistance to students who require it. The Program assists students who do not fully meet regular admissions requirements but have potential for succeeding at UNO. Approximately 50 percent of College Life Program participants are minority students.

The Upward Bound Program has 70 high school students who participate in Saturday classes throughout the year as well as in a summer residential academic college preparatory program. Spring graduates from Upward Bound



can attend UNO the following summer to receive assistance with applications to the institution of higher learning of their choice. About 50 percent of the Upward Bound students choose to attend UNO.

The Physics Department and the Department of Geology/Geophysics are particularly active in efforts to recruit minority students. The Physics Department also has been successful in recruiting minority graduate students through the Louisiana Alliance for Minority Participation (LAMP) Program. The Program focuses on summer classes and workshops designed to enhance fundamental skills in mathematics and physics for underrepresented students. Participants, who must already have been admitted to UNO for the fall semester, receive a \$1,000 stipend each academic year for four years as long as their academic progress remains satisfactory.

The College of Engineering has three major recruitment activities: Engineering Awareness Days, the Louisiana Engineering Advancement Program (LEAP), and the Job Training Partnership Act (JTPA) Cooperative Program. Engineering Awareness Days provide an overview of engineering fields as career options to high school students from a six-parish area. LEAP serves as a bridge between UNO and minority students by helping them prepare for college and by providing guidance. The JTPA program recruits economically disadvantaged students, including minority students.

UNO provides support services for students to facilitate their learning and adjustment to college. At the departmental level, the Department of Geology/Geophysics offers scholarships, special advising, and tutoring for minority students. The JTPA program provides tuition, books, and a stipend for up to 40 students annually. The recently established Ernest G. Chacere Graduate Fellowship Program for African American students includes tuition exemptions for all fields of graduate study. The Program also offers a limited number of \$10,000 awards for graduates of Southern University who are admitted to the Ph.D. program in the College of Engineering. The College of Engineering provides graduate assistantships and academic awards to all (minority and non-minority) students who qualify.

Members of engineering honor societies and graduate students offer tutoring services to all engineering students on an individual basis in response to student requests. The Developmental Mathematics Program provides instruction in pre-college algebra while the Department of Geology/Geophysics offers special advising and tutoring for minority students.

The University provides information and opportunities for summer employment internships and off-campus research positions at various institutions. Approximately half the positions each year are filled by minority students. Through a cross-enrollment agreement, students at Southern University of New Orleans and Delgado Community College have equal access to research positions at UNO. The University's Research Careers for Minority Scholars (RCMS) program represents an alliance between UNO and Xavier University of Louisiana. It

is a dual degree program allowing senior students at Xavier to receive a bachelor or master of science degree in science, mathematics, or engineering.

UNO seeks to provide an environment for its students that will ensure their success. Departmental faculty meetings address students' academic problems. Extracurricular activities are coordinated by the Dean's Student Organization Committees to invite all engineering students to be a part of student organizations.

The Black Faculty/Staff Caucus operates a mentoring program for on-campus students. In addition, the Office of Student Support Services provides comprehensive academic assistance to low-income, first generation or disabled entering students and provides other students with supplemental instruction and mentoring. The program directly supports the University's diversity goals.

The University's Learning Resource Center provides individual, small group, audio-, video-, and computer-assisted tutorials and instruction to students in developmental and freshman mathematics and composition courses. The complete video-taped lectures parallel instruction in these courses, and are particularly popular. In addition, mathematics and writing coordinators and trained tutors provide individual tutoring and consultation. An array of materials are available in different formats for various subjects and needs, including tutorials for standardized tests, word processing, and other purposes.

**University of Southwestern Louisiana**  
**Dr. Gary Marotta, Vice President for Administrative Affairs**  
**104 University Circle**  
**Lafayette, LA 70504**  
**Enrollment: 16,902**  
**Highest Offering: Doctorate**

tel: 318/482-1000  
fax: 318/482-6795  
homepage: <http://www.usl.edu>

**About the Institution**

The University of Southwestern Louisiana (USL) began as the Southwestern Louisiana Industrial Institute. In 1960, the institute became the University of Southwestern Louisiana. In 1991, it attained Doctoral II status, ranking it among the state's universities and colleges.



The Office of Minority Affairs plays a pivotal role in recruiting students and informing area schools about MSE career paths. The Office is responsible for recruiting minorities; advising and counseling students on summer, career, and graduate school opportunities; and working with faculty to identify and encourage students to achieve academically. Admissions personnel, faculty, deans, and Upward Bound and College Bound program personnel visit schools and encourage high school counselors to motivate students to consider MSE careers. USL also conducts activities for students from elementary school through high school under the federally-sponsored TRIO program. The University recruits students from two community colleges, Delgado and Nunez, with which it has articulation agreements.

### **Support Services and College Environment**

USL offers financial support through merit and needs-based scholarships. Financial support available at the graduate level includes regular and minority fellowships. The fellowships provide tuition, fees, and a \$15,000 yearly stipend.

Students requiring academic assistance have access to a variety of tutorial programs, including peer and supervised tutoring by students with master's degrees. Campus learning centers provide special tutoring in mathematics and science. On-campus students also may take advantage of mathematics and English courses presented through a closed-circuit network. Faculty members encourage students to participate in academic societies and clubs. The Society for Black Engineers, founded by undergraduates, is a strong, visible force on campus. It is open to all students and attracts candidates across disciplines and ethnic groups. The society promotes the academic achievement of its members through peer mentoring, advising, and sponsoring professional development activities. In addition, formal, informal, and departmental student study groups are available to all students.

Significant faculty support exists for minority MSE students in addition to support from the Office of Minority Affairs. For example, through the Ronald McNair Program, faculty work closely with students to ensure their academic success. Most faculty members work with students outside regular classroom hours. The faculty involved in the McNair Program inform and encourage students to participate in academic competitions, to engage in original research, and to publish in their areas of interest. Research is emphasized as a critical and necessary component to success in Ph.D. programs and to careers in academia. The Ronald McNair Program participants are concentrated in the areas of computer engineering, civil engineering, geology, and mathematics.

The University recruits students from local community centers, churches, and public housing communities. Students and faculty tutor young people and discuss the value of education with them.

**Xavier University of Louisiana**  
**Dr. Elizabeth Barron, Acting Vice President for Academic Affairs**  
**Palmetto & Pine Streets**  
**New Orleans, LA 70125**  
**Enrollment: 3,467**  
**Highest Offering: Doctorate**

**tel: 504/486-7411**  
**fax: 504/482-2801**  
**homepage: <http://www.xula.edu>**

### **About the Institution**

Xavier University of Louisiana, located in New Orleans, was founded in 1915 and is the only predominantly African American university in the United States that operates under the auspices of the Catholic Church. More than half of Xavier's students major in the natural or health sciences, particularly in biology, chemistry, and pharmacy. Xavier is recognized as a national leader in science education.

Pre-college summer programs begin with MathStar for ninth graders, ChemStar for 10th graders, BioStar for 11th graders, and Stress on Academic Reasoning (SOAR) for 12th graders and recent high school graduates.

### **Support Services and College Environment**

Xavier is a small university with a student faculty ratio of 15:1. Faculty are accessible and work to see that MSE students excel. Peer "deans" (student volunteer mentors) support and encourage new students to use all available resources. Study groups, tutorials, and advisors are provided to each student. Students begin to prepare for graduate school after their freshman year. Their advisors encourage them to enter the GradStar program that enables them to work on critical thinking and writing skills, participate in independent research projects, attend orientation/motivation seminars, and prepare for standardized tests. Through student organizations and chapters of national organizations, students can make valuable contacts and obtain a realistic view of MSE graduate work.

Two honors programs are available to students that offer research opportunities during the junior and senior years as well as the summer. Xavier has received funding from the Minority Biomedical Research Support (MBRS) Program at the National Institutes of Health, the Office of Naval Research (ONR) Future Scientists Program, and



the Research Careers for Minority Scholars (RCMS) Program at the National Science Foundation. Stipends in these programs range from \$2,000 to \$7,000 per year.

Each entering student is assigned a departmental faculty advisor. All faculty are required to post office hours and be available to students at least six hours per week. Outside of regular office hours, various MSE faculty conduct problem-solving test preparation, counseling, tutoring, and advising sessions. Each MSE department—chemistry, biology, mathematics, computer science, and physics/engineering—has faculty who vigorously support students. The Office of Academic Support Programs organizes and administers reading and writing centers and directs tutorial support. Students in MSE disciplines can receive extra assistance through the Mathematics Tutoring Laboratory and other tutorial programs, the Pre-Med Office, and the Physics/Engineering Department.

The University provides informal and departmental study groups for students. The Office of Career Planning and Placement assists students in their search for internships, summer jobs, and cooperative education opportunities. The Mobilization at Xavier (MAX) program, administered by the Vice President for Student Affairs, organizes and stimulates student volunteers to contribute to and become involved in community service activities.

## FEATURES\* OF SUPPORT SERVICES AND COLLEGE ENVIRONMENT

(Institutions are listed in rank order according to the number of MPSE Degrees Awarded to Minority Students in 1992-93)

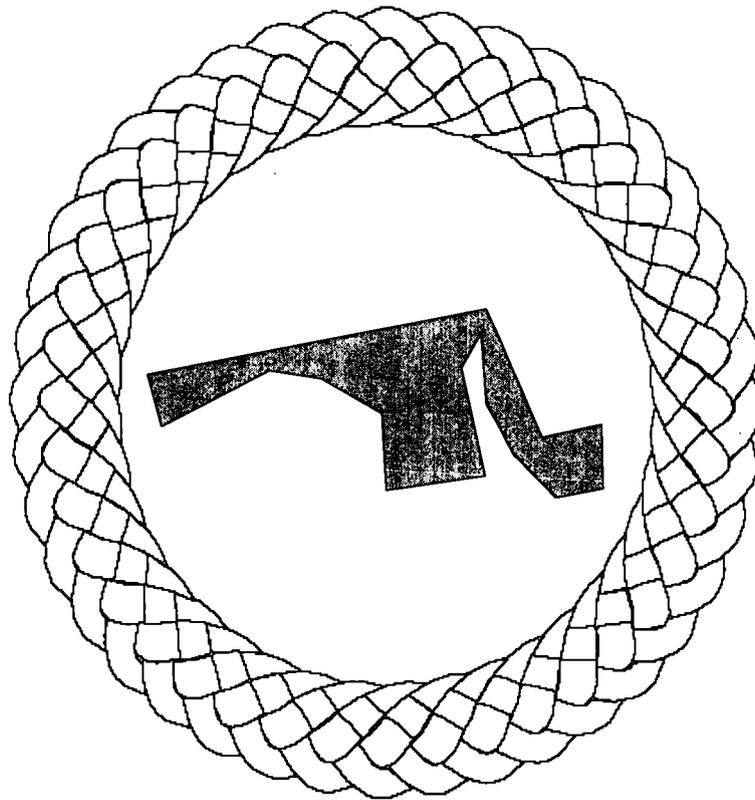
### LOUISIANA

INSTITUTION	COMMUNITY OUT-REACH	SPECIAL RECRUITMENT	SPECIAL SCHOLARSHIPS	SPECIAL OFFICE	SPECIAL COUNSELORS	ACCESSIBLE FACULTY	SUMMER BRIDGE	SPECIAL TUTORING	STUDY GROUPS	MSE STUDENT ORGANIZATIONS	ONE ON ONE ADVISING	PEER TUTORS	OTHER
Southern University, Baton Rouge	√	√	√		√		√	√			√		Undergraduate Research; Mentors Program
Xavier University	√				√	√		√	√	√	√		Undergraduate Research
Grambling State University**													
Louisiana State University	√	√	√		√			√	√	√		√	Formal MSE Collaborative
Southern University, New Orleans	√	√	√			√		√	√	√	√	√	
Dillard University	√	√	√			√	√	√	√		√		
Tulane University	√	√	√	√	√	√		√	√	√	√		Undergraduate Research
University of Southwestern Louisiana	√	√		√	√	√		√	√	√		√	Early preparation for Graduate School
University of New Orleans	√	√	√		√		√	√		√	√		Videotaped Lectures; Mentors Program
McNeese State University	√	√				√		√	√	√		√	

\* - Based upon information provided in institutional responses to QEM survey

\*\* - Did not return survey

# Maryland



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"TOP TEN" INSTITUTIONS IN NON-ASIAN MINORITY MSE BACCALAUREATE DEGREES AWARDED, 1992-93  
(Ranked by number of degrees awarded in Mathematics, the Physical Sciences, and Engineering)

Institution	Mathematics, Physical Sciences, and Engineering	Life Sciences	Social Sciences	Total MSE Baccalaureate Degrees Awarded
United States Naval Academy	71	0	41	112
University of Maryland-College Park	69	33	90	192
Morgan State University	57	20	47	124
Johns Hopkins University	11	12	13	36
Bowie State University	7	5	21	33
University of Maryland-Eastern Shore	5	7	23	35
Coppin State College	4	2	22	28
University of Maryland-Baltimore County	4	5	26	35
College of Notre Dame	2	0	0	2
Hood College	2	6	0	8

Source: Unpublished data from the National Center for Education Statistics, U.S. Department of Education

Notes: (1) Some states may not have 10 institutions listed because (a) there were fewer than 10 institutions in the state or (b) fewer than 10 institutions awarded degrees in mathematics, the physical sciences, and engineering to non-Asian minorities in 1992-93.

(2) If institutions are ranked by the total number of MSE degrees awarded, the "top ten" list of institutions may vary.

## MARYLAND

### Introduction

Maryland, with a 1990 population of approximately 5 million, ranks 19th in the nation in population size. It is home to approximately 2.3 percent of minorities nationally, and enrolls 2.2 percent of minorities at the college level.\* Non-Asian minorities comprise nearly 28 percent of the Maryland population.

**Table MD-I**  
**Maryland Population by Race/Ethnicity**  
 (in thousands)

1990	Total	African Americans	American Indians	Asians	Hispanics	Whites	Non-Asian Minority Population
Maryland Total Population	4,781	1,190	13	140	125	3,313	1,328
% of Maryland Population	100.0	24.9	0.3	2.9	2.6	69.3	27.8

Source: 1990 U.S. Census Data.

\* Quality Education for Minorities (QEM) Network, Washington, DC, 1996. "Statistical Profile of Maryland."

## MSE Degrees in Maryland

In 1992-1993, MSE baccalaureate degrees earned by non-Asian minorities in Maryland totaled 734, about 67 percent of the 1,100 projected as Maryland's "fair share" of NSF's goal. Only 14 non-Asian minorities received Ph.D.'s in MSE fields, representing 32 percent of the 44 doctoral degrees projected by NSF.

**Table MD-II**  
Degrees Awarded in MSE Disciplines in Maryland  
by Race/Ethnicity, 1992-1993

	Bachelor's	Master's	Doctorates
African Americans	562	45	10
American Indians	17	4	0
Asians	522	93	19
Hispanics	155	30	4
Whites	4,560	857	239
Total	5,816	1,029	272
Total Earned by Non-Asian Minorities	734	79	14
% Awarded to Non-Asian Minorities	12.6	7.7	5.1

**Source:** Unpublished data from Maryland Commission of Higher Education.

**Note:** Percent will not total 100 as Tables do not include degrees awarded to foreign students.

## Maryland Institutional Responses

Five of the 10 higher education institutions in Maryland sent survey questionnaires by QEM responded: Bowie State University, Johns Hopkins University, the United States Naval Academy, the University of Maryland, Baltimore County, and the University of Maryland, College Park. Summary information on these universities and their survey responses follow.

### **Bowie State University**

**Dr. Vernon L. Clark, Provost/Senior Vice President for Academic Affairs**

**Jericho Park Road**

**Bowie, MD 20715**

**Enrollment: 5,258**

**Highest Offering: Master's**

**tel: 301/464-3000**

**fax: 301/464-7814**

**homepage: <http://www.bsu.umd.edu>**

### **About the Institution**

Founded in 1865, Bowie State University (BSU) is one of the oldest Historically Black Colleges and Universities in America. The University was originally founded as a teacher's college to train Black Marylanders. Today, it is a regional, comprehensive university offering 27 undergraduate majors, including biology, computer science, technology, and a special program offering a dual degree in engineering with Morgan State, George Washington University, and the University of Maryland, College Park.

BSU is a member of the University of Maryland System and is located in the heart of the Baltimore-Washington corridor. A commuter rail station, located on the edge of the campus, provides easy access to downtown Baltimore and Washington, DC. A student considering BSU will find that the University is small enough to provide personalized attention, with an 18:1 student to faculty ratio.

Recruitment strategies include pre-college activities involving outreach to K-12 students. Some of the activities that the University provides are science fairs, workshops, and departmental open houses.

## Support Services and College Environment

Students majoring in MSE fields at BSU receive financial support in the form of grants, loans, and scholarships. High achieving science and mathematics majors are eligible for undergraduate assistantships.

At BSU, a student majoring in an MSE discipline has access to informal study groups in the physical sciences and mathematics. Undergraduate peer tutors in science and mathematics and a mathematics laboratory also are available to students. The University has formal mechanisms for providing information, advising, and counseling to students on summer career and/or graduate school opportunities. In addition, undergraduate research opportunities are strongly supported through summer science programs at various local institutions and agencies.

The University encourages students to participate in science and mathematics organizations and academic honor societies. Students may join a number of MSE-oriented organizations on campus, such as the Mathematical Association of America and the Phi Sigma National Biology Academic Honor Society. In addition, the Department of Natural Sciences and Mathematics provides special student-support workshops in mathematics.

The Wiseman Center, a modern student union building, and the Martin Luther King, Jr., Communications Art Center are the focal points of student life. Various student clubs and organizations, including a full intramural sports program meet on campus. The University hopes to attract, retain, and graduate more minority students, particularly in MSE fields.

### Johns Hopkins University

Dr. Joseph Cooper, Provost/Vice President for Academic Affairs

Charles and 34th Streets

Baltimore, MD 21218

Enrollment: 12,328

Highest Offering: Doctorate

tel: 410/516-8000

fax: N/A

homepage: <http://www.jhu.edu>

### About the Institution

Johns Hopkins University (JHU), founded in Baltimore, Maryland in 1876, was the first university in the Western Hemisphere where research and the advancement of knowledge were integrally linked to teaching. Johns Hopkins

enrolls more than 12,000 students, and ranks first among U.S. universities in receipt of federal research and development funds. The School of Medicine ranks first among medical schools in receipt of extramural awards from the National Institutes of Health. The School of Hygiene and Public Health ranks first among all public health schools in research support from the federal government.

Several recruitment strategies are implemented at the University. John Hopkins' reputation for excellence is its biggest recruitment asset. Brochures and mailings are sent to high school guidance counselors. Graduates of Johns Hopkins conduct workshops for interested students. One of JHU's strategies in recruiting minority students are prospective student phon-a-thons. The School of Arts and Sciences and the Second Decade Society have developed a program in conjunction with the Office of Admissions called the African American Student Prospect Phon-a-thon. Three phon-a-thons a year are conducted to encourage prospective African American undergraduates to apply to and enroll in Johns Hopkins. The University participates in Graduate Degrees for Minorities in Engineering Program which is a consortium of 75 universities and 81 corporations that provide fellowships to minorities underrepresented in engineering.

### Support Services and College Environment

Financial support at Johns Hopkins University can be obtained in the form of loans, grants, and scholarships. The National Achievement Scholars Program provides scholarships up to \$2,000 for outstanding African American students. The School of Engineering supports minority students from the University of Maryland, Baltimore County for summer research with Hopkins faculty.

Johns Hopkins offers numerous pre-college programs throughout the summer and academic school year. The Center for Talent and Youth (CTY) is an academic program for students in grades three through seven. CTY's mathematics, science, and computer science courses provide highly able middle and high school students an opportunity to select from a range of subjects, many of which would be available to them only in their last years of high school or in college. The Baltimore Polytechnic Institute Summer Program is offered through the School of Engineering. The Summer Institute offers courses in mathematics, science, and engineering (MSE) to 10th and 11th graders. The Mathematics, Engineering, and Science Achievement (MESA) Program aims to increase the number of minorities and female students in MSE-related professions. These are only a few of the programs through which the University specifically targets pre-college minority students.

All students are assigned academic advisors who focus on retention, student development, and help with course selections. In addition to receiving academic advisors, minority students participate in the Hopkins Summer Scholars Program, a five-week orientation program targeting entering African American and Latin American students. The Program consists of seminars on academic and social issues designed to assist with student



adjustment to college life. The Office of Multicultural Student Affairs publishes a monthly newsletter called "The Bulletin," which provides students with information on employment. The Counseling and Student Development Center offers workshops each semester targeting the needs of minority students.

The School of Continuing Studies' Faculty and Student Minority Committee examines the educational climate at Johns Hopkins and recommends strategies to promote a friendly campus environment. The Committee's main goal is to attract, recruit, and retain minority students and faculty, and promote understanding and appreciation for the differences in our community. Johns Hopkins University is committed to providing a supportive atmosphere so all students can prosper academically and socially.

**United States Naval Academy**  
**Lieutenant Michael Barber, Minority Admissions Counselor**  
**Candidate Guidance Office**  
**117 Decatur Road**  
**Annapolis, MD 21402-5018**

tel: 410/293-4361  
1-800-638-9156  
fax: N/A  
homepage: <http://www.nadr.navy.mil/homepage.html>

### **About the Institution**

The Naval Academy, established in 1845, prepares young men and women to become professional officers in the U.S. Navy or Marine Corps. Its mission has remained essentially the same: "To develop midshipmen morally, mentally, and physically; to imbue them with the highest ideas of duty, honor, and loyalty; and provide graduates who are dedicated to a career of naval service and have potential for future development in mind and character to assume the highest responsibilities of command, citizenship, and government."

The Naval Academy has made special efforts to recruit minority students. It has an extensive outreach program that includes minority officers who actively seek to attract minority students. In addition, the Academy hosts three-week summer seminars in June for high school students entering their senior year. Students are exposed to the life of a midshipman and are given mini-courses in MSE subjects as well as in some areas in the humanities and social sciences.

## Support Services and College Environment

All students admitted to the Naval Academy receive free room and board and monthly pay as members of the United States Navy. They are taught by a faculty of more than 600, which is evenly divided between civilian professors who provide academic continuity and military officers who rotate every few years, bringing the latest experience from the fleet.

Every midshipman's academic program begins with a core curriculum of courses in engineering, science, mathematics, humanities, and social sciences. The curriculum is designed to give a broad-based education so that a midshipman will qualify for practically any career field in the Navy or Marine Corps. Graduates receive bachelor of science degrees and commissions as Navy Ensigns or Marine Corps Second Lieutenants.

At the Naval Academy, a variety of scientific and engineering disciplines are represented and a wide range of academic assistance is available to all students in MSE. Research opportunities are based on academic performance and interest. Several extracurricular groups focus on minorities by providing academic support for their members. The Academy offers its midshipmen opportunities for summer internships in many disciplines. Graduates may pursue education in graduate schools in the United States and abroad.

For midshipmen interested in joining professional organizations, the Naval Academy is host to local chapters of several national honorary societies. Also, a large number of midshipmen are actively engaged in extracurricular organizations that provide community service and outreach. They range from Big Brother/Big Sister activities to community restorations.

While minority student graduation rates remain steady, the Academy continues to improve its minority student recruitment efforts, though no new programs have been identified. While the Naval Academy celebrates the many successes of its minority students, its plans call for increased recruitment efforts.

**The University of Maryland, Baltimore County**  
**Dr. JoAnn E. Argersinger, Provost and Vice President for Academic Affairs**  
**520 West Lombard Street, Baltimore MD 21201**  
**Baltimore, MD 21201**

tel: (410) 706-7004  
fax: (410) 706-5483  
homepage: <http://www.ab.umd.edu>

### **About the Institution**

The University of Maryland at Baltimore (UMBC) is a medium-sized, public research university offering bachelor's, master's, and doctoral degrees in the sciences, engineering, arts, humanities, and the social and behavioral sciences.

UMBC has several pre-college programs, including Upward Bound and a program supported by the National Science Foundation that target middle and secondary school students. These programs run during the regular school year. On three weekdays each fall, UMBC sponsors Visit Days where visitors may sit in on actual classes; talk with students and faculty members; and discuss admissions, financial aid, and scholarship criteria with campus representatives. Open house programs are designed for transfer applicants. High school sophomores and juniors also have an opportunity each spring to get a jump on college planning. The "Just for Juniors" program provides walking tours of the campus and opportunities to meet with faculty and campus representatives.

One of the key elements in UMBC's recruiting strategy for minority students is the Meyerhoff Scholarship Program. This program has a national reputation for being successful in recruiting and retaining African American students in MSE fields. The institution also has a student recruiting team made up of African American student volunteers who go out with the University's admissions staff to help in recruiting. Faculty also are involved in recruiting African Americans. They participate in the events scheduled to recruit talented African Americans as well as in all the Meyerhoff activities.

### **Support Services and College Environment**

UMBC offers a number of financial aid programs linked to a student's demonstrated financial need. The University offers financial support in the form of scholarships, loans, and grants. Merit scholarships at UMBC range from \$500 per year to full tuition, fees, room, and board. These scholarships are awarded to students with exceptional



academic or artistic talent. Most of these awards do not consider financial need, and may be renewed for up to four years.

Minority students interested in pursuing MSE degrees at UMBC should be aware of the Meyerhoff Scholarship Program. To be considered for these awards, a student must be nominated by a high school teacher. Nomination information is sent to high schools and also may be requested directly from the UMBC Office of Scholarships. The Program awards a four-year scholarship for tuition, room, and board to high-achieving entering freshmen who are committed to pursuing careers in science, mathematics, and engineering. It requires that students spend the summers participating in a research activity and employs a staff person specifically to seek out these opportunities for students. The goal of the Meyerhoff Program is to have minority students go to graduate school after completing their undergraduate work. To this end, UMBC has a staff member who works with students to arrange for summer internships and to help them negotiate the application process for graduate school.

Meyerhoff Scholars participate in a wide range of academic and cultural enrichment activities as well as an intensive six-week summer residential experience at the start of their freshman year. Besides the Meyerhoff Program, other scholarships that focus on the arts and humanities are open to minority students. It is because of the reputation of the Meyerhoff Program, however, that personnel in the secondary schools are aware of UMBC's commitment to minorities and encourage students to look to UMBC for scholarship opportunities. Freshman applicants can be considered for University Scholars, President's Fellows, President's Scholars, and Scholastic Achievement Fellows. The latter awards, available to minority students with outstanding academic credentials, provide \$5,000 per year for four years. The Scholastic Achievement Scholars Program also recognizes minority students with strong academic records and provides \$3,500 for each of the four academic years.

For students needing extra academic help, UMBC operates a Learning Resource Center which offers free tutoring for students. The Chemistry Department also operates a tutoring center. The Meyerhoff Program sponsors formal study groups and recommends that students form informal study groups. A very important element in the success of minority students is UMBC's special effort to increase the number of minority faculty in MSE areas to serve as role models and to work with minority students.

It is not surprising that the Meyerhoff Program acts as a catalyst for many activities on campus, since the President of UMBC also is the founder and head of the Meyerhoff Program. Meyerhoff students are expected to contribute to the community through volunteer work. They tutor, work with local schools, and return to their high schools or churches to tutor students, especially in science and mathematics. Through the Alliance for Minority Participation Program, funded by the National Science Foundation, community college students participate in several aspects of the Meyerhoff Program.

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UMBC has many student and professional chapter organizations on campus. The Society of Black Engineers has a very active student chapter. They have been very effective in bringing minority professionals from the area to campus to interact with students and faculty.

**University of Maryland at College Park**  
**Dr. Mary Ellen Petrisko, Executive Vice President**  
**University Boulevard at Adelphi Road**  
**College Park, MD 20742**  
**Enrollment: 31,500**  
**Highest Offering: Doctorate**

tel: 301/985-7000  
fax: 301/985-7678  
homepage: <http://inform.umd.edu>

### **About the Institution**

The University of Maryland, College Park was established in 1856 as a land-grant institution and is the flagship institution of the University of Maryland System. The University was listed as a "best buy" for the mid-Atlantic region in the 1994 *Money Guide to Best College Buys Now*.

The University actively recruits talented minority students through a variety of initiatives. One of these initiatives includes a five-year grant from the University of Maryland System/NSF Alliance for Minority Participation. This alliance is a partnership with the University of Maryland, Baltimore County and the University of Maryland, Eastern Shore to increase the number of minorities in science, engineering and mathematics. Students receive full tuition scholarships, intensive and extensive monitoring, advising, and internship opportunities relating to their majors. The Freshman Bridge Program for Minorities in Computer Science and Engineering is a comprehensive year-long program aimed at retaining minority students. This Program commences with a six-week summer program and includes orientation, course advisement for registration for the fall semester, mathematics and English workshops, introduction to key advisors, faculty and campus support units, and field trips to local computer science and engineering companies.

As part of the University's pre-college recruitment efforts, students may attend a six-week program called the "Summer Scholars in Computer Science and Engineering Program." This Program is offered in partnership with

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the Clark School of Engineering and allows underrepresented minority high school juniors to experience college and to receive information about careers and majors in the computer science and engineering fields. Students earn up to six college credits in this program. The University also offers "Physics for Middle School Girls." This is a pre-college summer program in physics to encourage young girls, especially minority girls, to consider careers in physics. In addition, the University holds a cultural focus day, which is a campus-wide effort to recruit talented minority students.

### **Support Services and College Environment**

University faculty are urged to view themselves as facilitators of learning rather than merely transmitters of knowledge. They are encouraged to develop innovative modes of classroom instruction, breaking from traditional patterns of classroom instruction.

The Physics and Mathematics Departments have tutorials in introductory courses. In these tutorials, students learn problem solving skills, work on assignments, and form study groups. The University monitors and supports students throughout their academic careers by requiring that all students see an advisor at least once a semester before registering for the following semester. This ensures that students are taking the appropriate courses in their majors and completing general education requirements. All departments, including mathematics and science, have Walk-in Advising. The Dean's Office also is open to students Monday through Friday. Advising sessions provide students with an opportunity to obtain information on internships, career opportunities, and other academic issues. In addition, students are invited to informal monthly pizza luncheons with advisors and faculty to promote a sense of community and stay abreast of current issues and activities (career fairs, job opportunities, availability of internships).

The University has a strong commitment to undergraduate education. The Edward Bouche Academic Excellence Reception was developed to recognize the achievement of African American students. Outstanding freshmen, sophomores, and juniors with a least at 3.0 GPA are recognized for their achievements. At the University, a systems approach to educational reform seems to be very effective in assisting minority student success in MSE courses. To this end, the University has developed policies, practices, and programs and has engaged in curricula review, all aimed at assisting students, including minority MSE majors, to succeed in their respective areas.

For students who find themselves in academic trouble, the University provides a course entitled "Reaching Academic Excellence." It is a one-credit course for students on academic probation to help them achieve academic and personal goals.

For minority students who are challenged financially, the James Yorke Minority Scholarship was developed to provide one-time emergency financial aid scholarships to talented African American students to keep them enrolled at the University. In addition, all students are provided with an electronic e-mail account in order to have easy and quick access to advisors and faculty.

In 1992, 1993, and 1994, the University was cited by *Black Issues in Higher Education* as one of the leaders among traditionally white schools in the number of baccalaureate and doctoral degrees awarded to Black students. *The 100 Best Colleges for African American Students*, first published in 1993, lists the University as one of that select group, noting that, "...according to recent statistics, it is a leading predominantly white institution in the number of African American students it graduates each year."

### FEATURES\* OF SUPPORT SERVICES AND COLLEGE ENVIRONMENT

(Institutions are listed in rank order according to the number of MPSE Degrees Awarded to Minority Students in 1992-93)

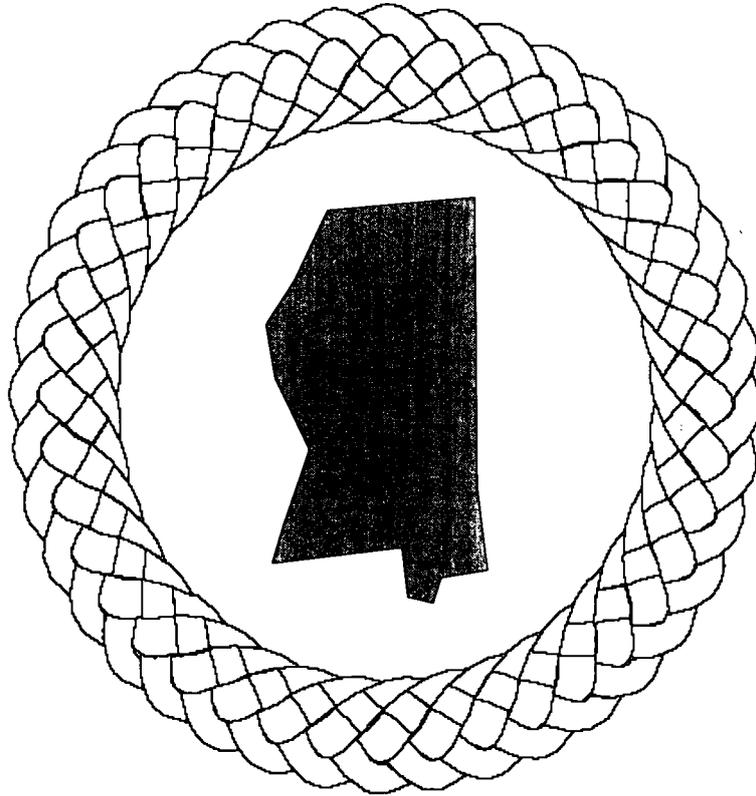
#### MARYLAND

INSTITUTION	COMMUNITY OUT-REACH	SPECIAL RECRUITMENT	SPECIAL SCHOLARSHIPS	SPECIAL OFFICE	SPECIAL COUNSELORS	ACCESSIBLE FACILITY	SUMMER BRIDGE	SPECIAL TUTORING	STUDY GROUPS	MSE STUDENT ORGANIZATIONS	ONE ON ONE ADVISING	PEER TUTORS	OTHER
United States Naval Academy	√	√	√		√			√		√			Summer Internships
University of Maryland-College Park	√	√	√		√	√	√	√	√		√		Formal MSE Collaborative
Morgan State University**													
Johns Hopkins University	√	√	√	√	√		√				√		
Bowie State University	√	√	√		√			√	√	√		√	Undergraduate Research
Univ. of MD-Eastern Shore**													
Coppin State College**													
University of Maryland-Baltimore County	√	√	√		√		√	√	√	√			Formal MSE Collaborative
College of Notre Dame**													
Hood College**													

\* - Based upon information provided in institutional responses to QEM survey

\*\* - Did not return survey

# Mississippi



# MISSISSIPPI

"TOP TEN" INSTITUTIONS IN NON-ASIAN MINORITY MSE BACCALAUREATE DEGREES AWARDED, 1992-93  
(Ranked by number of degrees awarded in Mathematics, the Physical Sciences, and Engineering)

Institution	Mathematics, Physical Sciences, and Engineering	Life Sciences	Social Sciences	Total MSE Baccalaureate Degrees Awarded
University of Southern Mississippi	77	5	18	100
Jackson State University	52	57	36	145
Alcorn State University	45	36	38	119
Mississippi State University	40	6	19	65
Mississippi Valley State University	22	13	23	58
Tougaloo College	16	10	46	72
Rust College	7	9	11	27
University of Mississippi-Main Campus	3	8	6	17
Mississippi University for Women	3	2	0	5
Delta State University	1	5	8	14

Source: Unpublished data from the National Center for Education Statistics, U.S. Department of Education

- Notes: (1) Some states may not have 10 institutions listed because (a) there were fewer than 10 institutions in the state or (b) fewer than 10 institutions awarded degrees in mathematics, the physical sciences, and engineering to non-Asian minorities in 1992-93.
- (2) If institutions are ranked by the total number of MSE degrees awarded, the "top ten" list of institutions may vary.

# MISSISSIPPI

## Introduction

Mississippi, with a 1990 population of approximately three million, ranks 31st in the nation in population size, is home to 1.5 percent of non-Asian minorities, and enrolls 1.2 percent of minority college students nationally.\* Non-Asian minorities represent 36.5 percent of the Mississippi population. (See Table MS-I).

**Table MS-I**  
Mississippi Population by Race/Ethnicity  
(in thousands)

1990	Total	African Americans	American Indians	Asians	Hispanics	Whites	Non-Asian Minority Population
Mississippi Total Population	2,573	915	9	13	16	1,515	940
% of Mississippi Population	100.0	35.6	0.4	0.5	0.6	63.0	36.5

Source: 1990 U.S. Census Data.

\* Quality Education for Minorities Network, Washington, DC, 1996. "Statistical Profile of Mississippi."

## MSE Degrees in Mississippi

In 1992-1993, MSE baccalaureate degrees earned by non-Asian minorities totaled 636 (see Table MS-II), which exceeds the 600 degrees projected as Mississippi's "fair share" of NSF's national goal? Mississippi produced three non-Asian minorities with MSE doctoral degrees, which is significantly below the state's "fair share" projection of 24 degrees.

**Table MS-II**  
MSE Degrees Awarded in Mississippi by Race and Ethnicity, 1992-93

	Bachelor's	Master's	Doctorate
African Americans	563	24	2
American Indians	4	1	0
Asians	18	5	4
Hispanics	69	0	1
Whites	1,322	199	34
Total	1,976	229	41
Total Non-Asian Minorities	636	25	3
% of Degrees Awarded to Non-Asian Minorities	32.2	10.9	7.3

Source: Unpublished data from U.S. Department of Education, National Center for Education Statistics.

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## Mississippi Institutional Responses

Eight of the 10 higher education institutions that received surveys from QEM responded: Delta State University, Jackson State University, Mississippi State University, Mississippi University for Women, Rust College, Tougaloo College, University of Mississippi, and University of Southern Mississippi. Summary information on these universities and their survey responses follow.

**Delta State University**  
**Dr. W. Frank McCarthur, Vice President of Academic Affairs**  
**Highway 8 West**  
**Cleveland, MS 38733**  
**Enrollment: 3,887**  
**Highest Offering: Doctorate**

tel: 601/846-3000  
fax: 601/846-4016  
homepage: <http://www.deltast.edu>

### About the Institution

Delta State University was established in 1924 in Cleveland, Mississippi. The University is fully accredited by the Southern Association of Colleges and Schools and has been since it first became eligible in 1930. It offers baccalaureate, master's, and doctoral degrees.

The University's recruitment efforts center around the Mississippi Alliance for Minority Participation (MAMP) activities. Visits to area high schools by the MAMP director and students facilitate the connection between the community and the University.

### Support Services and College Environment

MAMP funds scholarships, research, and tutorials. Scholarship recipients invite MSE professionals to be guest speakers at regular meetings. Also, for students needing extra help in mathematics and science, the Department of Mathematics offers the Personal Empowerment Program.

Formal and informal student study groups are available, and students may participate in student mathematics and science organizations. The University conducts the MAMP Bridge Program, a residential, externally-funded, four-week summer program for minority high school seniors.

Community outreach activities include after-school tutorials and career awareness days at local high schools.

### **Jackson State University**

**Dr. Thomas J. Robinson, Assistant to the President/Director of University Relations**

**1440 JR Lynch Street**

**Jackson, MS 39217**

**Enrollment: 6,313**

**Highest Offering: Doctorate**

**tel: 601/968-2100**

**fax: 601/968-2358**

**homepage: <http://stallions.jsums.edu/~jsu>**

### **About the Institution**

Jackson State University (JSU) has a distinguished history, rich in the tradition of educating young leaders. The school was founded in 1877 by the American Baptist Home Mission Society as the Natchez Seminary. In November 1882, the school was moved to Jackson from Natchez and, in March 1899, the curriculum was expanded and the name changed to Jackson College. The state assumed support of the college in 1940, assigning to it the mission of training teachers. Subsequently, between 1953 and 1956, the curriculum was expanded to include a graduate program and bachelor's degree programs in the arts and sciences.

The name was changed to Jackson State College in 1956. Further expansion of the curriculum and a notable building program preceded the elevation of Jackson State College to university status in 1974. Presently, Jackson State University, a public institution, is supported by legislative appropriations and supplemented by student fees and federal and private grants. Programs are provided for students at the baccalaureate, master's, and doctoral levels. Non-credit programs are offered to encourage life-long learning and to provide opportunities for enlightenment and enrichment.

To accomplish its goals, the University participates in early identification and recruitment of pre-college students. The School of Science and Technology has established a comprehensive "Educational Experience Continuum

Plan" that focuses on activities impacting all parts of the education pipeline. The plan fosters communication and collaboration among universities, government, industry, community, and pre-college organizations to help students achieve academic success. The programs make mathematics and science interesting and relevant to the lives of pre-college as well as college students. Also, they expose students to a variety of career opportunities in science, engineering, and other technical fields.

JSU's marketing/recruitment office works closely with science and technology faculty, students, and staff. Juniors and seniors are required to tutor in the public schools and faculty/student teams from local high schools and community colleges also help increase the effectiveness of the recruiting efforts. Signed Memoranda of Understanding with the Mississippi Department of Education and several key school districts serve to strengthen the partnership.

### **Support Services and College Environment**

Sources of scholarships and other financial support at JSU include University and externally-funded programs such as the Alliance for Minority Participation (AMP), Minority Access to Research Careers (MARC), Minority Biomedical Research Support (MBRS), Research Careers for Minority Students (RCMS), and Young Scientists. Support also is available from the Science Consortium, Science and Engineering Scholarships, the Army High Performance Computing Research Center, the David and Lucile Packard Foundation, the Howard Hughes Medical Institute, the Herron-Hess Foundation, and research assistantships.

During the academic year, students are involved in research on campus or at partner institutions, national laboratories, and industries. Mentors are required to meet with trainees for 10 to 15 hours per week. Each trainee is required to enroll in an Introduction to Research course for one credit hour. The course introduces the students to the elements of scientific research, problem identification, hypothesis formulation, designing and executing experiments, data collection and analysis, interpretation, and presentation of results in both oral and written form.

An important part of each individual training program is the external summer research internship in which students participate following their sophomore year. Each trainee is required to present at least one paper at a national meeting.

Departmental tutoring and other support sessions are offered to students needing extra help in mathematics or science. Formal mechanisms for providing information, advice, and counseling on summer, career and/or graduate school opportunities to students involve career days, academic advisors, and the career counseling center. Freshman students who fully meet all University requirements for admission, are assigned advisors in their respective departments.

During the Spring 1993, the School of Science and Technology implemented a plan that addresses retention and graduation of students in a structured and systematic way. The plan uses advising and intervention strategies which ensure that lines of communication always exist between and among students, advisors, instructors, chairs, deans, and parents/guardians.

Formal, informal, and departmental student study groups for calculus and physics accommodate students who need support. Mathematics, science, and engineering-oriented student organizations and national academic societies have chapters on campus.

Minority or community-focused outreach activities include pre-college programs, K-12 teacher enhancement programs, a parental advisory group, a family mathematics-science program, and middle and high school student tutoring. Residential, four- to six-week programs in mathematics and science are targeted at students in grades seven to twelve.

### **Mississippi State University**

**Dr. Derek J. Hodgson, Provost and Vice President for Academic Affairs**

**Mississippi State, MS 39762**

**Enrollment: 14,344**

**Highest Offering: Doctorate**

**tel: 601/325-2131**

**fax: 601/325-7455**

**homepage: <http://www.msstate.edu>**

### **About the Institution**

Mississippi State University (MSU), established in 1878, is the largest university in the state and is a comprehensive land-grant institution dedicated to providing a quality education to men and women from all walks of life. The University has emerged as one of the region's and the nation's premier research and service universities, yet it has never wavered from its primary mission: excellence in undergraduate education.

Now, in its 119th year, Mississippi State has more than 700 faculty and an alumni family of more than 83,000. University alumni have gone on to become state and national leaders in business and industry, government, education, and many other fields.

MSU is the only Mississippi university listed among the nation's top 100 research institutions by the National Science Foundation. Last year, the University attracted more than \$56 million in external contracts and grants. The University is among the nation's top 100 universities in awarding bachelor's degrees to African Americans.

Recruitment efforts at MSU include the Minority Student Achievement Program (MSAP) and the Summer Bridge Program in engineering. Several departments make individual efforts to attract minorities. MSU offers seven on-campus, pre-college programs, the New Summer Development Program, a residential opportunity that targets students in grades nine through twelve.

### **Support Services and College Environment**

MSU makes a number of internships, scholarships, and fellowships available. Undergraduate research, teaching, and tutoring opportunities are available in every department. The Learning Center, the Holmes Cultural Development Center, and departmental "drop-in" centers offer tutorials and other support sessions for students needing extra help in mathematics or science.

MSU offers the Neel-Shaffer Scholarship which provides \$12,000 per year to minority residents of Mississippi who are civil engineering majors. The Ken Graves Scholarship is a four-year, full tuition package for engineering majors. The International Paper Minority Scholarship offers \$5,000 per year for an African American or Native American forestry major with an ACT score of 23 or greater.

Mathematics, science, and engineering-oriented student organizations and chapters of national organizations are available on campus. Several student chapters of national organizations currently operate at MSU, including the National Society of Black Engineers.

African Americans comprise 15 percent of the on-campus enrollment of MSU. Students from other states account for 18 percent, and students from other countries for five percent.

Mississippi State has 828 full-time instructional faculty members, 93 percent of whom hold doctorates or the highest degree in their field. The student-faculty ratio is 15:1.

The University supports nearly 300 student organizations that enable students to develop socially as well as academically. These organizations include departmental organizations, residence hall groups, fraternities, and sororities as well as musical, religious, service, and political societies. MSU offers 32 recreational sports for men and women.

**Mississippi University for Women**  
**Dr. Susan E. Kupisch, Vice President for Academic Affairs**  
**Columbus, MS 39701**  
**Enrollment: 3,071**  
**Highest Offering: Master's**

**tel: 601/329-4750**  
**fax: 601/329-7297**  
**homepage: <http://www.muw.edu>**

### **About the Institution**

The Mississippi University for Women (MUW), established in 1884 in Columbus, Mississippi, is a participant in the Mississippi Alliance for Minority Participation (MAMP), a statewide alliance of Mississippi's eight public-supported universities. MAMP's goal is to dramatically increase the number of minority students who receive baccalaureate degrees in science, engineering, and mathematics. Collaboration among the MAMP team is the hallmark of the alliance. MAMP's approach to achieving its mission is accomplished through a threefold activity strategy: 1) activities that facilitate recruitment and the transition from high school to college; 2) activities that enhance the quality of undergraduate education; and 3) activities that facilitate transition to graduate education. These strategies are implemented through MUW's Increasing Minority Access to Graduate Education (IMAGE) program.

Mississippi University for Women designed an IMAGE program to significantly increase the number of minority students who receive baccalaureate degrees in mathematics and science. Through the supportive collaboration and integrated relationship established between the Division of Science and Mathematics and the Office of Student Development, a strong system of support was created that addresses a broad range of student barriers.

MAMP brochures are mailed to more than 10,000 minority students based on names supplied by the American College Testing (ACT) Program. The brochure explains the goals of MAMP and the benefits that MAMP can provide students. Information is provided about science, engineering, and mathematics programs available at each alliance institution. Students respond via questionnaires and responses are distributed by the MAMP Center to each institution.

MUW's IMAGE pamphlets are distributed to Mississippi high school counselors in order to recruit upcoming high school graduates into the Summer Bridge Program. The University's MAMP site coordinator, accompanied by IMAGE students, visits area high school science and mathematics classes and community college career day

programs to talk about the IMAGE program and about MSE careers. At the same time, a MAMP recruitment video tape, which has proven to be an excellent recruiting tool, is shown. In addition, the site coordinator and IMAGE students participate in the Annual Recruiting Conference of the National Scholarship Services and the Fund for African American Students held each fall in Atlanta.

Recruitment efforts are coordinated with the Admissions and Financial Aid Offices to ensure that the application forms and information are forwarded to students. Representatives from the Admissions Staff and the Financial Aid Office also serve on the IMAGE Steering Committee.

### **Support Services and College Environment**

Stipends and scholarships are given to motivate students to strive for high academic achievements in MSE areas as measured by grade-point average and participation in IMAGE retention activities. The funds are distributed across all class levels. The MUW/IMAGE program distributes between 10 and 42 stipends during an academic year. Stipends awarded to students range from \$100 to \$1,000 per semester.

Stipends are given to Summer Bridge participants who decide to enroll in MUW as freshmen. Afterwards, these former Bridge participants must maintain a GPA of 3.0 or better to receive a stipend. Stipends also are given to students who have a GPA of 3.0 or better and are transferring from a MAMP program at another university.

Some MAMP funds are used as special stipends for students who are experiencing special hardships and for students who qualify for participation in workshops and other special learning opportunities. This encourages students to apply for participation in activities—research, internships, conferences, and special workshops—that they might not ordinarily choose due to financial considerations.

MAMP's objective is to expose students to the research environment as early as possible in the undergraduate curriculum, provide insights into the skills and knowledge required for research, and prepare students for graduate study. Efforts to involve MAMP scholars in research, tutoring, and teaching begin with their exposure to the Summer Bridge Program. Recent high school graduates are exposed to scientific instrumentation, and IMAGE students serve as peer tutors.

MAMP's Business, Industry, Government (BIG) coordinator is in regular contact with research laboratories and industries to identify and develop internship and co-op opportunities. BIG disseminates application material to all sites, assists with follow-up on applications as required, and evaluates internships. Programs supported by federal agencies (for example, the National Science Foundation's Research Experiences for Undergraduates and special programs from the Naval Research Laboratory and the National Aeronautics and Space Administration)

are helping to meet the need. Of special significance are such programs as the Naval Research Laboratory Internship Program that seeks MAMP scholars following their freshman year so that the internship can improve performance in science core courses generally taken in the first two academic years. In addition, students are invited back in subsequent summers and may be asked to serve as mentors for a new group of interns.

As a natural extension of these research experiences, students are encouraged to present the results of their research at state and national conferences and meetings such as the Mississippi Academy of Sciences (MAS), the National Council on Undergraduate Research, and the NSF-AMP Conference.

In addition to peer tutors for specific subjects, the Office of Academic Support Services offers mathematics and science help-desks and supplemental instructors for biology. The help desks and supplemental instructors are located in the mathematics and science department for convenience and easy access to instructors.

The BIG coordinator is in regular contact with research laboratories and industries and furnishes each alliance member with a list of summer research opportunities. The monthly IMAGE and Steering Committee meetings serve as a formal mechanism for providing information, advice, and counseling on summer, career and/or graduate school opportunities to students. A monthly IMAGE newsletter serves as a communication tool to inform students of upcoming conferences, graduate school information, and advice.

MAMP's graduate bridge coordinator in each institution links graduating seniors with prospective graduate program directors and helps students to meet graduate school requirements. The coordinator has developed a minority graduate education homepage that is used to provide MAMP students access to pertinent information relating to admission, GRE, GPA, financial support for graduate studies in MSE disciplines, timelines for negotiating the graduate school admissions process, and tips on choosing where to attend. The homepage also includes information on graduate schools, Mississippi Alliance institutions and graduate MSE programs, other Alliance for Minority Participation (AMP) programs, leaders in the production of minority graduate degrees in engineering, and recent/current minority students in graduate MSE programs.

The graduate coordinator visits each MAMP institution and presents a workshop on "Why Graduate School?" The students have the opportunity to respond to questions relating to graduate education in MSE disciplines. The coordinator also organizes a graduate school workshop which is attended by potential graduate students from MAMP institutions across the state. The workshop provides an opportunity for students to interact with graduate students and program coordinators as well as begin the application process for admission to graduate school.

At the beginning of each year, the graduate coordinator and the site coordinator compile a list of graduating seniors who are then targeted individually and made aware of graduate school opportunities.

The Summer Bridge Program is a recruitment and retention initiative for minorities in MSE. The five-week residential program was developed at MUW to assist high school graduates in "bridging the gap" between high school and the freshman year in college. It is an intensive program with emphasis on academic skills, personal development, group identification, and team building, acclimation to university life, and direct interaction with faculty and upper-level peers. Faculty for the academic component are regular teaching faculty in the University who also serve as members of the MAMP Steering Committee. Full support is provided for housing, meals, and activities as well as a stipend. Students receive college credit and increase their understanding of mathematics, chemistry, biology, computer science, and physics as well as college survival skills.

MUW maintains strong linkages with the Mississippi School for Mathematics and Science Summer Project 500. Project 500, funded by the Alfred P. Sloan Foundation, is designed to encourage and enhance minority participation in MSE among middle and high school students in grades seven through ten. The Bridge students serve as mentors to Project 500 students.

Empowering students through personal responsibility is a major objective of MAMP retention activities. MUW believes that an essential role of MAMP is to present students with tools, approaches, and techniques they need to achieve their goals. A primary vehicle for disseminating these techniques to students is the "Guaranteed 4.0" workshops. These workshops provide assistance with time and stress management and present a concise three-step method for improving grade point averages. Follow-up is essential to ensure that students adhere to the program and make the required adjustments. The students are asked to sign a contract committing to meet with a mentor at a minimum of twice monthly to review progress and work out adjustments, as necessary.

Student involvement in designing and achieving MAMP goals also is critical to the strategy for student empowerment. At the annual MAMP planning retreat, students from all MAMP institutions join with the executive committee and coordinator to review current strategies and plan for future activities.

Photographs of science and mathematics seniors with GPAs above 3.0 are displayed on a bulletin board throughout the academic year. Student accounts and photos usually are exhibited three at a time in order to recognize accomplishments and highlight potential role models among successful students.

Planned outreach efforts include:

- providing students with opportunities to give back to their communities
- providing role models for middle school students, enhancing the chances that these students will be motivated to consider MSE careers and select the proper pre-college courses in order to be prepared

- forming more collaborations with on-going community educational programs
- establishing a permanent IMAGE drop-in center where various activities take place, including tutoring and meetings between mentors and study groups

### **Rust College**

**Dr. Paul C. Lampley, Academic Dean**

**150 East Rust Avenue**

**Holly Springs, MS 38635**

**Enrollment: 994**

**Highest Offering: Baccalaureate**

**tel: 601/252-8000**

**fax: 601/252-6107**

**homepage: N/A**

### **About the Institution**

Rust College is a Historically Black Liberal Arts College founded in 1866 by the Freedman's Aid Society of the Methodist Episcopal Church. The College is dedicated to serving students with a range of academic preparation through instruction in the humanities, social and behavioral sciences, natural sciences, business, and education. Rust College recognizes the three-fold functions of education: teaching, research, and community service. Its primary mission, however, is teaching. It offers students a well-rounded program to acquaint them with cultural, moral, and spiritual values, both in theory and in practice.

Rust College offers a number of pre-college programs to raise the level of preparedness for high school students entering college. The Minority Biomedical Research Support Program (MBRS) is designed to increase the research capabilities of science faculty at the college and the number of minority students in biomedical research. The Minority High School Apprenticeship Program is intended to motivate high school students to enter into biomedical research fields. The goal of the Health Careers Opportunity Program is to increase the number of minorities in medicine and allied health sciences. The Eisenhower College Discovery Program aims to upgrade the academic skills of ninth grade students and high school teachers of biology and mathematics.

Rust College also offers the Rust Honors Biomedical Research Training Program which seeks to augment the number of students enrolling in graduate biomedical research programs and to strengthen the biology and

chemistry curricula. The Rust College Talent Search provides educational support activities in a three-county area surrounding the college. Rust has an Upward Bound Program with the following goals: (1) to assist low-income youth who have academic potential but may lack the motivation necessary to obtain a high school diploma; (2) to increase the number of first-generation students graduating from high school; (3) to improve participants' performance in the basic skills and in the sciences; (4) to help participants acquire the knowledge and skills required for successful performance in post-secondary education; (5) to increase student motivation to persist to graduation; and (6) to raise participants' level of cultural, social, and recreational awareness. The John Lennon Pre-College Summer Scholarship provides tuition and fees for high ability, high potential youth from disadvantaged backgrounds to be exposed to science and engineering. The college provides a Mathematics/Science Program for youth of Marshall County, Mississippi in support of the 1994 National Youth Sports Program.

The United Negro College Fund/Hoffman-Laroche School Linkage Program provides content instruction as well as training in alternative strategies for science, mathematics, and in-service and pre-service teaching. In addition, the program offers intensive training to students who may have the potential to excel in mathematics and science.

### **Support Services and College Environment**

Scholarships and financial support are provided through Minority Biomedical Research Support (MBRS), Minority Access to Research Careers (MARC), the Alliance for Minority Participation (AMP), an Air Force grant, and Pell Grants.

Departmental tutorials/support sessions are available for students needing extra help in mathematics or science, GRE preparation, MCAT preparation, and in other academic areas.

Faculty advising and announcements in weekly assemblies are formal mechanisms for providing information, advice, and counseling on summer, career, and/or graduate school opportunities.

The Student Internship Program is a career-oriented educational plan that integrates academic study with practical experience by alternating periods of classroom instruction with periods of employment. The Internship Program plan is designed to help students put their classroom knowledge and skills into practice by participating in designated periods of planned and supervised study-related work experience.

Rust College offers cooperative and dual degree programs with other institutions in the areas of engineering, nursing, biology, and medical technology. These institutions include Meharry Medical Center, Tennessee State University, Georgia Institute of Technology, University of Memphis, and Mississippi State University.

Extracurricular campus activities include faculty advising, monthly role model speakers, tutorial sessions, and weekly student seminars. Informal student study groups as well as student science organizations such as the Computer Science Club frequently meet on campus.

### **Tougaloo College**

**Ms. Mabel Henderson, Vice President for Academic Affairs**

**Tougaloo, MS 39174**

**Enrollment: 1,019**

**Highest Offering: Baccalaureate**

**tel: 601/977-7700**

**fax: 601/977-7739**

**homepage: N/A**

### **About the Institution**

In 1869, the American Missionary Association of New York purchased a five-hundred acre plantation near Jackson, Mississippi and established a school for the training of young people "irrespective of religious tenets, and conduct[s] on the most liberal principles for the benefit of [Mississippi's] citizens in general." In 1871, the Legislature of the State of Mississippi granted the institution a charter, and it was recognized as a teacher training school until 1892 when the College ceased to receive aid from the state. Courses for college credit were first offered in 1897 and the first Bachelor of Arts degree was granted in 1901.

As a small, predominantly African American, private, coeducational liberal arts institution, Tougaloo has won national respect for its high academic standards and level of social commitment. Under the leadership of George A. Owens, the first African American president of the College, Tougaloo achieved even greater distinction by upgrading the quality of its faculty and instituting new curricula designed to prepare its students to meet contemporary challenges and needs. The College also established relationships with several prestigious universities, thereby facilitating the entrance of its students into engineering, medicine, law, graduate studies, and other post-baccalaureate programs. Notable among such relationships is the Brown University-Tougaloo Program in which the two schools enjoy a mutually beneficial relationship evidenced by student exchanges, faculty development opportunities, and other supportive activities.

## Support Services and College Environment

Tougaloo College admits students with diverse backgrounds and academic experiences to promote understanding and appreciation of scientific, cultural, and spiritual achievements and to be effective citizens in a democracy. The College offers an undergraduate curriculum designed to encourage students to apply critical thought to all areas of life; to acquire a basic knowledge of the humanities, the natural sciences, and social sciences; to develop entry-level skills required in selected professions; and to provide leadership in a democratic society.

The following falls under the "Pre-Help Program": the Summer Science program, Minority Access to Research Careers (MARC), Howard Hughes Program, and the Physics Camp. Tougaloo's on-campus, pre-college programs include a four-week, residential Upward Bound program and a Native Youth Spokesperson program aimed at eleventh and twelfth graders.

The Presidential Scholarship (a full scholarship) and the Dean's Scholarship (a partial scholarship) provide funding for exceptional students. A portion of the Presidential Scholarship funds was reallocated to the Dean's Scholarship in order to allow more students to take advantage of scholarship opportunities.

Informal student study groups are available on campus. A special initiative, the Ronald McNair Program, will be implemented next year to support formal study groups. The Computer Laboratory offers self-tutoring and an opportunity for faculty to work with students on the weekend. The Student Support Program tutorials provide academic assistance to students. In addition, several student organizations such as the Computer Science Club operate on campus. Career Awareness Day provides students with the opportunity to meet with representatives from as many as 63 graduate schools.

Minority or community-focused outreach activities include the faculty working with high school teachers and a new health and wellness center to be established over two years. In addition, the College is currently working with two community colleges to strengthen its efforts in recruiting and retaining minority students.

**University of Mississippi**  
**Dr. Gerald Walton, Provost and Vice Chancellor**  
**Oxford, MS 38677**  
**Enrollment: 10,636**  
**Highest Offering: Doctorate**

**tel: 601/232-7211**  
**fax: 601/232-7010**  
**homepage: <http://www.olemiss.edu>**

### **About the Institution**

Known around the world as Ole Miss, the university offers more than 100 academic programs that lead to careers in engineering, business, telecommunications, politics, medicine, journalism, accounting, pharmacy, law, health, education, and many other areas. Today, the University of Mississippi serves the state from four locations: the main Oxford campus; Jackson, home of the University Medical Center; Tupelo; and Southaven. The School of Engineering, founded in 1900, is the oldest engineering school in the state. Instruction in engineering at the University dates from 1854 when an engineering department was established by the Board of Trustees to complement a strong program in the natural sciences.

Recruitment efforts include high school visits by University faculty and staff and the Summer Bridge Program. Staff from the Admissions Office attend college fairs, and a six-week, residential, externally-funded program is offered to pre-college students.

### **Support Services and College Environment**

The Mississippi Alliance for Minority Participation (MAMP) awards scholarships based on students' grade point averages and participation in the Guaranteed 4.0 Seminar. All students who participate in MAMP during both the fall and spring semesters may take advantage of summer school assistance. Financial aid and general scholarships also are available. Tuition is provided for all minorities in graduate degree programs.

During the academic year, the program to Increase Minority Access to Graduate Education (IMAGE) provides tutoring opportunities for gate-keeping courses and hires upperclassmen with a 3.0 or higher GPA to tutor students in these courses. During the summer, research opportunities are available to undergraduates in science, engineering, and mathematics through the IMAGE center. Tutorials or other support sessions for students needing extra help in mathematics, science, and engineering are offered through one-on-one tutoring and seminars.

Minority or community-focused outreach activities include IMAGE Scholars tutoring high school and middle school students and an annual-spring minority outreach conference.

Freshman and upper-class/departmental advising is provided by MAMP/IMAGE advisors to all students through assigned mentors. Also, all science, engineering, and mathematics students are assigned advisors by the university departments. Study group sessions are available through IMAGE in biology, chemistry, computer science, engineering, physics, and mathematics.

MSE-oriented student organizations and chapters of national organizations include: Pi Mu Epsilon in mathematics, Beta Beta Beta in the sciences, and the National Society of Black Engineers, Chi Epsilon, and Eta Kappa Nu in Engineering.

**University of Southern Mississippi**  
**Dr. Larry Braidfoot, Provost**  
**Hattiesburg, MS 39401**  
**Enrollment: 13,657**  
**Highest Offering: Doctorate**

**tel: 601/582-5051**

**fax: 601/582-6454**

**homepage: <http://www.usm.edu>**

### **About the Institution**

The University of Southern Mississippi (USM) was established in 1910 as a state-supported Normal College with the purpose of training teachers. It became a comprehensive university in 1962. The administrative structure now includes a president, five vice presidents, dean of the Graduate School, and deans of eight colleges: The Arts, Business Administration, Education and Psychology, Health and Human Sciences, Liberal Arts, Science and Technology, Honors, and International and Continuing Education. In Fall 1995, minorities were 22 percent of the University's student body, and 30 percent of those students were enrolled in the College of Science and Technology (CoS&T).

USM takes recruitment and retention very seriously. Most CoS&T units have faculty committees charged with ensuring that efforts in these areas are successful. The types of activities considered important include: prompt responses to interested students and to all requests for information, written, or via telephone; willingness to

schedule appointments with potential students and/or their parents to discuss such concerns as programs, academic regulations, and career opportunities; and faculty trips to high schools and community colleges in the region, sometimes with undergraduate majors, to make academic presentations and visit with mathematics/science teachers and potential students. USM also invites high school students and their mathematics/science teachers to attend campus programs, contests, and workshops. USM, in general, and CoS&T, in particular, attract many first generation college students and make special efforts to attract members of traditionally underrepresented groups into the sciences.

### **Support Services and College Environment**

Several USM departments have scholarship programs that were established as endowments by friends and/or alumni of the department. In addition, a few college-wide scholarships are available; for example, the Wal-Mart Competitive Edge Scholarship, which awards \$20,000 over four years. Minority students regularly receive these scholarships.

A large number of CoS&T students are selected for membership in USM's Honors College. CoS&T undergraduates are hired as tutors in several departmentally-based centers. Minority students serve as tutors as well as benefit from these services. Some students work in laboratories and in Special Problems research courses, while others grade papers for faculty. Nearly all CoS&T students have active undergraduate research programs. Participants regularly receive national recognition for their efforts (e.g., Goldwater Scholarships, National Science Foundation Graduate Fellowships, and selection to Academic All-American teams). USM attempts to identify talented undergraduates early in their careers, involve them with a faculty mentor, and encourage them to apply for co-op positions, summer fellowships, internships, scholarships, and admission to graduate and/or professional schools.

The Department of Chemistry and Biochemistry sponsors a small Summer Undergraduate Research Program for six to eight students from throughout the country. The NASA Space Grant Program brings together teams of high school students, undergraduates, and faculty members to work on interesting science and mathematics problems each summer. Several faculty members take advantage of NSF's Research Experience for Undergraduates (REU) program to engage students in real-world laboratory research. In addition, since Mississippi is an Alliance for Minority Participation (MAMP) state, CoS&T is an active and enthusiastic partner in this effort. MAMP's Summer Bridge Program for rising freshmen brings minority high school graduates to campus for a summer enrichment program designed to ease their transition into a university setting.

Many informal approaches are in place such as tutorials or other support sessions for students needing extra help in mathematics or science. For example, students regularly study mathematics in an area of the department—separate from the Mathematics Learning Center—that is equipped with tables and a chalkboard. Faculty often

drop by and assist students who are discussing mathematics in groups and/or at the board. Physics and astronomy faculty regularly lead tutorials for GRE preparation while a biology faculty member conducts weekly tutorial sessions for freshman biology students.

Several faculty members who have special interests in working with students outside of the classroom and their regular office hours, have earned the reputation of being caring, concerned, and helpful mentors.

The Office of Student Employment actively identifies employment opportunities and provides relevant information to students via individual and departmental mailings. Several departments have a designated individual charged with the responsibility of providing such information and encouragement to their majors. In addition, project directors of the MAMP, NASA Space Grant, and the Health Careers Opportunities Program (HCOP) regularly provide information about such opportunities as a part of the programs' goals.

Each CoS&T undergraduate is assigned an academic advisor who assists him/her with course selection. CoS&T was one of the first colleges to implement a computerized degree audit program called PACE (Programmed Academic Evaluation). The academic advisor no longer has to be a bookkeeper but rather can help students address more substantive issues. Nearly all units have undergraduate clubs and organizations with faculty advisors who participate in both academic and social activities. The Freshman-Faculty Mentor Program, which matches new CoS&T freshmen with faculty volunteer mentors, involves beginning students in a friendly relationship with a faculty member outside the classroom setting. Special workshops are regularly conducted for minority students to share information on summer programs, application processes for professional school admission, and other relevant opportunities.

Most departments have student organizations, although the purpose and participation vary. These include the Society of Plastics Engineers (Polymer Science), Beta Beta Beta (Biological Sciences), Alpha Epsilon Delta (Pre-professional Students), the Society for Clinical Laboratory Sciences (Medical Technology), the Association for Computing Machinery and Upsilon Pi Epsilon (Computer Science), the American Chemical Society (Chemistry and Biochemistry), Kappa Mu Epsilon (Mathematics), the Society of Physics Students (Physics and Astronomy), and the National Society of Black Engineers.

Several on-campus, pre-college programs operate during the summer. Some programs are sponsored by organizations external to CoS&T. For example, faculty in the Department of Polymer Science regularly invite talented high school students to work in their research labs and rising 11th and 12th graders are selected to participate as team members with undergraduates and faculty in the NASA Space Grant program. The College Discovery programs, funded by the Board of Trustees of Mississippi Institutions of Higher Learning, have provided summer residential experiences in biology and mathematics for rising ninth graders, their teachers, and USM pre-service

secondary teachers. MAMP's Summer Bridge program helps ease the transition from high school to college for minority youth who will enter USM the following fall semester. The Pre-freshman Enrichment Program, supported by the U.S. Department of Energy, provides a three-week summer experience in mathematics and science activities for rising seventh grade girls.

### FEATURES\* OF SUPPORT SERVICES AND COLLEGE ENVIRONMENT

(Institutions are listed in rank order according to the number of MPSE Degrees Awarded to Minority Students in 1992-93)

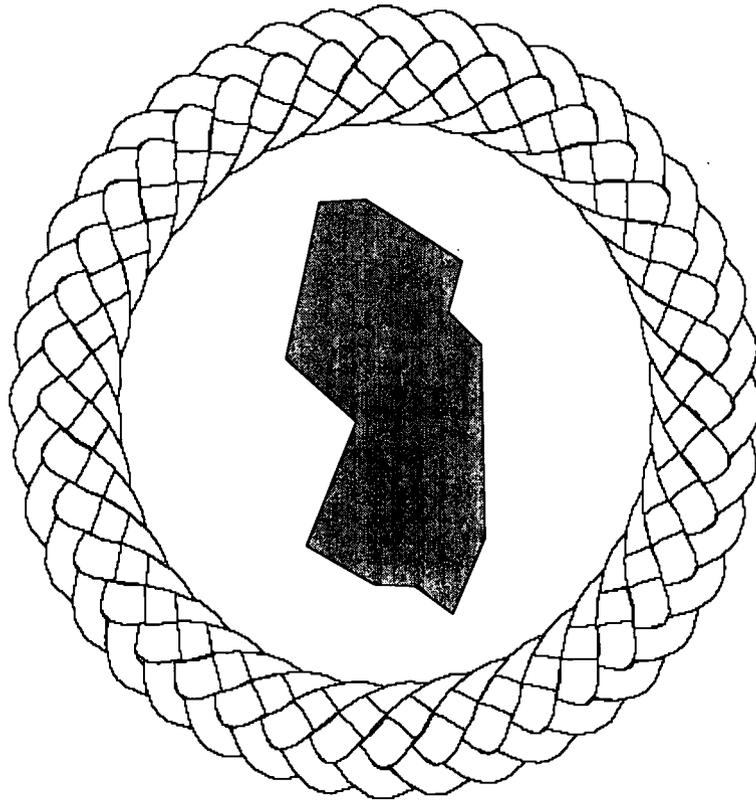
#### MISSISSIPPI

INSTITUTION	COMMUNITY-OUT-REACH	SPECIAL RECRUITMENT	SPECIAL SCHOLARSHIPS	SPECIAL OFFICE	SPECIAL COUNSELORS	ACCESSIBLE FACULTY	SUMMER BRIDGE	SPECIAL TUTORING	STUDY GROUPS	MSE STUDENT ORGANIZATIONS	ONE ON ONE ADVISING	PEER TUTORS	OTHER
University of Southern Mississippi	√	√	√		√	√	√	√	√	√	√	√	Undergraduate Research
Jackson State University	√	√	√		√		√	√	√	√	√		Undergraduate Research; Formal Collaborative
Alcorn State University**													
Mississippi State University	√	√	√				√	√		√		√	Undergraduate Research
Mississippi Valley State University**													
Tougaloo College	√	√	√			√	√	√	√	√			
Rust College	√	√	√		√	√	√	√	√	√			Dual Degree Program
University of Mississippi-Main Campus	√	√	√				√	√	√	√	√	√	
Mississippi University for Women	√	√	√		√	√	√	√				√	Undergraduate Research; MSE Collaborative; Mentors Program
Delta State University	√	√	√				√	√	√	√			MSE Collaborative

\* - Based upon information provided in institutional responses to QEM survey

\*\* - Did not return survey

# New Jersey



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# NEW JERSEY

"TOP TEN" INSTITUTIONS IN NON-ASIAN MINORITY MSE BACCALAUREATE DEGREES AWARDED, 1992-93  
(Ranked by number of degrees awarded in Mathematics, the Physical Sciences, and Engineering)

Institution	Mathematics, Physical Sciences, and Engineering	Life Sciences	Social Sciences	Total MSE Baccalaureate Degrees Awarded
New Jersey Institute of Technology	75	0	0	75
Rutgers University New Brunswick	28	37	178	243
Stevens Institute of Technology	25	0	0	25
Princeton University	22	6	47	75
Fairleigh Dickinson University (All Campuses)	13	3	12	28
Kean College of New Jersey	8	5	23	36
Trenton State College	5	4	18	27
Rowan College of New Jersey	3	0	21	24
Jersey City State College	2	8	29	39
Rider University	2	0	14	16
Rutgers University Camden Campus	2	4	15	21

Source: Unpublished data from the National Center for Education Statistics, U.S. Department of Education

- Notes: (1) Some states may not have 10 institutions listed because (a) there were fewer than 10 institutions in the state or (b) fewer than 10 institutions awarded degrees in mathematics, the physical sciences, and engineering to non-Asian minorities in 1992-93.
- (2) If institutions are ranked by the total number of MSE degrees awarded, the "top ten" list of institutions may vary.

## NEW JERSEY

### Introduction

New Jersey, with a 1990 population of approximately 7.7 million ranks ninth in the nation in state population. It is home to approximately 3.3 percent of non-Asian minorities in the nation and enrolls 2.6 percent of non-Asian minority college students nationwide.\* Among the states chosen for QEM's survey,<sup>1</sup> New Jersey ranks eighth in terms of Hispanic college enrollment, and ninth in terms of Asian college enrollment.<sup>2</sup> As shown in Table NJ-I, African Americans constitute New Jersey's largest minority group; together, non-Asian minorities account for 23.2 percent of the state's total population.

**Table NJ-I**  
New Jersey Population by Race/Ethnicity  
(in thousands)

1990	Total	African Americans	American Indians	Asians	Hispanics	Whites	Non-Asian Minority Population
New Jersey Total Population	7,730	1,037	15	273	740	5,665	1,792
% of New Jersey Population	100.0	13.4	0.2	3.5	9.6	73.3	23.2

Source: 1990 U.S. Census Data.

\* Quality Education for Minorities (QEM) Network, Washington DC, 1996. "Statistical Profile of New Jersey."

## MSE Degrees in New Jersey

During the 1992-1993 academic year, 898 non-Asian minorities received baccalaureate degrees in an MSE field in New Jersey, which is only 69 percent of the 1,300 projected as New Jersey's "fair share" of the NSF goal. In the same year, only 19 non-Asian minorities received the Ph.D. degree in an MSE field in New Jersey, which is approximately 37 percent of the 52 doctoral degrees projected as the state's "fair share."

**Table NJ-II**  
MSE Degrees Awarded in New Jersey  
by Race/Ethnicity, 1992-1993

	Bachelor's	Master's	Doctorates
African Americans	529	37	8
American Indians	16	2	0
Asians	632	130	34
Hispanics	353	41	11
Whites	4,975	625	230
Total	6,505	835	283
Total Earned by Non-Asian Minorities	898	80	19
% Earned by Non-Asian Minorities	13.8	9.6	6.7

Source: Unpublished data from the U.S. Department of Education, National Center for Education Statistics.

## New Jersey Institutional Responses

Five out of 11 higher education institutions in New Jersey that received surveys responded: Jersey City State College, New Jersey Institute of Technology, Princeton University, Rider University, and Rowan College of New Jersey. Summary information on these universities and their survey responses follow.

**Jersey City State College**  
**Ms. Muriel A. Hauf, Academic Dean**  
**33 Plymouth Street**  
**Jersey City, NJ 07042**  
**Enrollment: 7,220**  
**Highest Offering: Master's**

**tel: 201/744-2010**  
**fax: 201/744-2298**  
**homepage: <http://www.jcstate.edu>**

### About the Institution

Jersey City State College (JCSC) is a state institution founded in 1927. The college offers 28 undergraduate degree programs, graduate studies, and teacher certification programs. JCSC provides opportunity for academic and personal growth through several study options. It offers a nationally recognized Cooperative Education Program, which enables undergraduates in all majors to earn income and academic credit while experiencing field study at one of hundreds of participating corporations, agencies, and organizations. Recruitment efforts for minorities are made through a National Science Foundation (NSF) Alliance for Minority Participation (AMP) Project. Recruitment efforts in the Department of Geosciences involve attending career seminars and programs sponsored by local school districts in the area. Members of the Chemistry Club visit high school classes and encourage minority students to get involved in mathematics, science, and engineering (MSE) fields. An informal articulation agreement between Jersey City State College and Essex and Hudson County Community Colleges also helps in the recruitment of minority students.

### Support Services and College Environment

Scholarships, loans, and other forms of financial aid are available to eligible students. Students who matriculate in various MSE departments are encouraged to participate in research projects as well as in tutoring their peers.

Bulletin boards in each department are used to provide information on career and graduate school opportunities. Jersey City State College's Chemistry Department collaborates with Seton Hall University and other engineering colleges to provide advanced studies for Jersey City State College students. The College encourages student participation in MSE fields through pre-college programs such as College Bound, a one-year externally funded program that targets eighth through eleventh grade students who are interested in attending college.

Each department provides faculty advising, tutoring, and study groups for students. Faculty advisors meet with students at least twice a semester to monitor their academic progress. Students use departmental facilities for study groups. Other support mechanisms include various academic clubs and student chapters of the Geological Society of America and the American Chemical Society. Jersey City State College intends to continue expanding its minority recruitment efforts.

**New Jersey Institute of Technology**  
**Dr. John L. Weber, Dean of Instruction**  
**College Drive**  
**Newark, NJ 8753**  
**Enrollment: 7,885**  
**Highest Offering: Doctorate**

**tel: 908/255-0400**  
**fax: 908/255-0444**  
**homepage: <http://www.njit.edu>**

### **About the Institution**

The New Jersey Institute of Technology (NJIT), founded in 1881, is a public university located in Newark. NJIT is a residential campus with five academic schools, and each entering student receives a personal computer to use during her/his undergraduate years.

*Money Magazine's Money Guide: Best College Buys 1995* rated NJIT as the third best value among U.S. science and technology schools. NJIT ranked fifth nationally among its peers in recruiting and retaining students from underrepresented groups as a result of a wide range of aggressive programs developed to attract and retain minority students. NJIT has a close relationship with local high schools in the Newark area. The Institute's staff make frequent visits to high schools, and names of students interested in attending NJIT are placed on a mailing

list. Students on the mailing list receive NJIT information on a regular basis, including invitations to open houses and campus tours as well as literature on pre-college summer programs. NJIT has formal joint admissions agreements with several New Jersey community colleges.

### **Support Services and College Environment**

NJIT offers financial aid to students through grants, loans, and merit- and need-based scholarships. The University's Financial Aid Office administers a number of scholarships for minority students. Approximately 75 percent of Educational Opportunity Program (EOP) students are eligible for full New Jersey Tuition Assistance Grants or Pell Federal Assistance Grants. The Student Support Services Program (SSSP) is a federally-funded program that provides academic support to first generation college students as well as students with disabilities, limited English proficiency, and high financial need.

Support groups are available for tutoring students and offering advice on class selection, internships, graduate programs, and employment opportunities after graduation. Students may visit the Office of Career Planning and Placement or the Office of Career Development Services to inquire about employment. The EOP provides comprehensive tutorial, counseling, and financial services to students. Students also may receive tutoring at the University Learning Center. The University offers several summer programs to expose high school juniors and seniors to mathematics, science, engineering, and technology.

Eligible minority students are encouraged to participate in research activities with faculty and to pursue teaching as a career. The University's Otto H. York Center was the first facility in the nation on a college campus specifically constructed for research in hazardous waste management. The Center has eight partnerships with the community and other institutions, including the Massachusetts Institute of Technology and Princeton University.

New Jersey Institute of Technology is committed to the pursuit of excellence. The student body is broad and diverse. Students can choose from more than 50 academic groups, social clubs, and professional societies, including the Society of Women Engineers and the National Society of Black Engineers. Students design solutions to problems, work on teams, and learn to communicate effectively. NJIT believes in education for life and in preparing students for the future. Recruiting and retaining minority students is an important goal of the Institute.

**Princeton University**  
**Dr. Sharon Rubin, Vice President for Academic Affairs**  
**505 Ramapo Valley Road**  
**Princeton, NJ 7430**  
**Enrollment: 6,314**  
**Highest Offering: Doctorate**

tel: 201/529-7500  
fax: 201/529-7508  
homepage: <http://www.princeton.edu>

### **About the Institution**

The Institution was chartered in 1746 as the College of New Jersey. Its name was changed to Princeton University in 1896 in honor of its host community of Princeton, New Jersey. The University has been fully coeducational since 1969. Each year, more than 2,500 members of the student body, faculty, and staff volunteer in community service projects throughout the Princeton region. The University has educated thousands of individuals who have dedicated their lives to public service, including two U.S. presidents (Woodrow Wilson and James Madison); hundreds of U.S. and state legislators; and 44 governors, including 11 New Jersey governors.

### **Support Services and College Environment**

Princeton's student organizations are active in recruitment efforts. Members of the National Society of Black Engineers, the Society of Hispanic Professional Engineers, and the Society of Women Engineers, for example, attend high school outreach fairs. Brochures describing the University's academic offerings in mathematics, science, and engineering are mailed to selected high schools for distribution.

Princeton has a need-blind admissions policy (i.e., a family's ability to pay is not factored into the admissions decision.) Princeton also provides scholarships, loans, and work-study programs for students.

The Summer Science Institute, a pre-freshman summer program, is open to a select number of students who have been admitted as freshmen. It is a seven-week program that allows incoming students to earn credit in mathematics and English classes. The University requires all students to complete independent work during their junior and senior years. The Office of the Dean of the College and the Undergraduate Affairs Office in the School of Engineering and Applied Sciences provide tutorial services to students who need assistance. Research Experiences

for Undergraduates (REU), apprenticeships, departmental advising, summer internships, and science and technological job fairs are available to students throughout their undergraduate years.

Each student has a faculty advisor as well as junior and senior students who act as peer advisors. Students are encouraged to participate in departmental open houses and lectures. The ratio of full-time students to faculty members is less than eight to one. The National Society of Black Engineers conducts review sessions for undergraduates, and study halls are conducted in mathematics, physics, chemistry, and engineering. In addition, the New Jersey State-wide Systemic Initiative (SSI) invites undergraduate students who are interested in MSE fields to participate in various programs. Princeton University will continue its efforts to recruit and retain minority students in MSE fields.

**Rider University**  
**Dr. Carol J. Metteson, Provost**  
**Lawrenceville, NJ 8028**  
**Enrollment: 5,269**  
**Highest Offering: Master's**

**tel: 609/256-4000**  
**fax: 609/256-4345**  
**homepage: <http://www.rider.edu>**

**About the Institution**

Rider University, founded in 1865 as Trenton Business College, is a private, non-profit liberal arts institution located in Lawrenceville Township, New Jersey. Recruitment in the sciences is closely coordinated with the activities of the Office of Admissions. Three open houses are held during the academic year in which prospective students learn about Rider University. Rider has informal articulation agreements with Bucks County Community College, Mercer Community College, and Brookdale Community College to help in its recruitment of minority students. Two additional articulation programs to increase minority student enrollment are with Hunterdon Central High School and the Marine Academy of Science and Technology. Rider University is dedicated to mentoring students from these two institutions and frequently includes them in research activities.

NEW JERSEY



## Support Services and College Environment

Scholarship assistance is available through the Office of Financial Aid. In addition, the Science Advisory Board has provided science scholarships through support from various corporations. For example, Johnson and Johnson Personal Products, Inc. sponsors two scholarships to support minority students in science and finance. These students also have summer placements at Johnson and Johnson. Selected students also are invited to serve as tutors in specific courses by various departments.

Project SEED, supported by the American Chemical Society, is directed toward disadvantaged high school students. SEED students work with Rider students and faculty on research projects for six weeks during the summer. In addition, Rider University serves as the site of the Mercer Science and Engineering Fair and the Science Olympiad through which elementary, middle, and high school students compete in a variety of science competitions.

Science majors are assigned departmental advisors who provide academic guidance and support. Faculty members meet with new students to discuss their academic progress and college life in general. Also, a traditional picnic is held annually to provide a friendly atmosphere in which students and faculty can interact.

All science majors are encouraged to participate in science-oriented clubs such as the Biology Club, American Chemical Society Club, Geo-Club, and Marine Science and SCUBA Club. Science honor societies such as Sigma Xi and Sigma Gamma Epsilon also are on campus and are open to eligible, interested students.

Rider University will continue its efforts to recruit minority students. Faculty members have developed, and will continue to develop and nurture, relationships with schools enrolling high percentages of minority students. Faculty at Rider University will continue to provide the highest level of technical assistance to teachers in its partner schools.

**Rowan College of New Jersey**  
**Dr. Walter K. Gordon, Provost/Dean Arts & Science**  
**311 North Fifth Street**  
**Glassboro, NJ 8102**  
**Enrollment: 9,030**  
**Highest Offering: Master's**

**tel: 609/757-1766**  
**fax: 609/757-6495**  
**homepage: <http://www.rowan.edu>**

### **About the Institution**

Rowan College, established in 1923, offers a liberal-arts-based curriculum and is composed of six academic schools: Business Administration, Communication, Education, Engineering, Fine and Performing Arts, and Liberal Arts and Sciences. A significant number of Rowan's minority students enter the college through the Educational Opportunity Fund (EOF)/Minority Achievement Program (MAP). In order to become a part of this program, the student must demonstrate potential for academic success. An informal agreement exists between community colleges and the state's four-year institutions that EOF transfer students will receive funding and support when they transfer.

### **Support Services and College Environment**

All students in EOF/MAP are eligible for federal and state grants and loans. Students who need help in any subject can receive free tutoring from other students in the College Tutoring Center. All EOF/MAP students attend a six-week pre-college institute. This residential program offers students an opportunity to improve basic academic skills while teaching them how to succeed in college.

Rowan College has a community-oriented atmosphere. Faculty members are dedicated to producing exceptional students and productive citizens. Each student is required to meet with an advisor at least once a month. This meeting allows for discussions on academics, finances, graduate school, employment, and personal issues. Structured study periods are held every night in the library, and students may attend on a voluntary basis. In addition, upper-class students serve as mentors for freshman students.

## FEATURES\* OF SUPPORT SERVICES AND COLLEGE ENVIRONMENT

(Institutions are listed in rank order according to the number of MPSE Degrees Awarded to Minority Students in 1992-93)

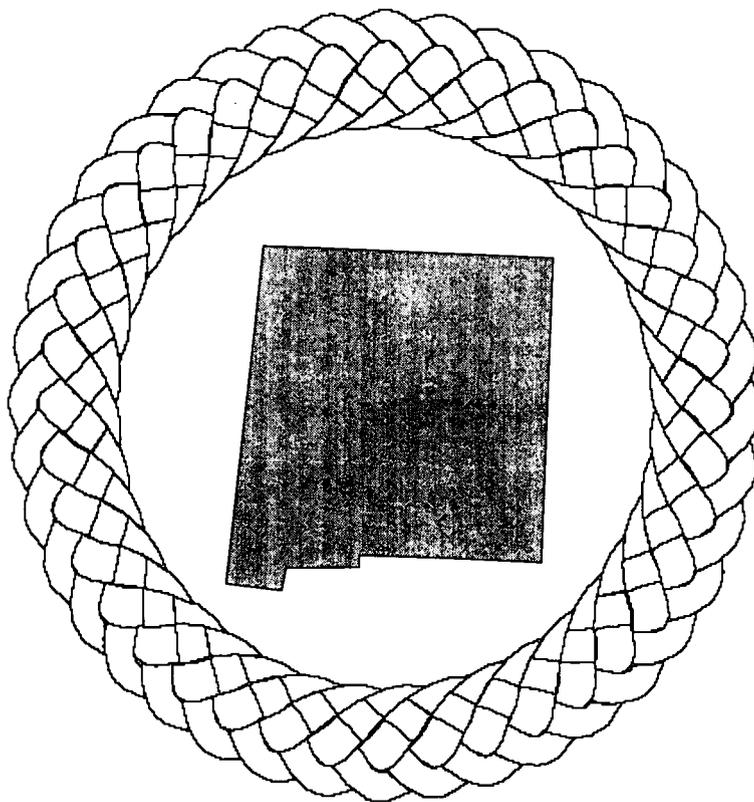
### NEW JERSEY

INSTITUTION	COMMUNITY OUT-REACH	SPECIAL RECRUITMENT	SPECIAL SCHOLARSHIPS	SPECIAL OFFICE	SPECIAL COUNSELORS	ACCESSIBLE FACULTY	SUMMER BRIDGE	SPECIAL TUTORING	STUDY GROUPS	MSE STUDENT ORGANIZATIONS	ONE ON ONE ADVISING	PEER TUTORS	OTHER
New Jersey Institute of Technology	√	√	√		√		√	√	√	√		√	Undergraduate Research
Rutgers Univ., New Brunswick**													
Stevens Institute of Technology**													
Princeton University	√	√					√	√		√	√	√	Small classes - (8:1 ratio); Undergraduate Research
Fairleigh Dickinson University**													
Kean College of New Jersey**													
Trenton State College**													
Rowan College of New Jersey		√			√	√	√	√	√		√	√	
Jersey City State College	√	√				√		√	√	√	√	√	Co-Op Program
Rider University	√	√	√							√	√		
Rutgers University Camden Campus**													

\* - Based upon information provided in institutional responses to QEM survey

\*\* - Did not return survey

# New Mexico



# NEW MEXICO

"TOP TEN" INSTITUTIONS IN NON-ASIAN MINORITY MSE BACCALAUREATE DEGREES AWARDED, 1992-93  
(Ranked by number of degrees awarded in Mathematics, the Physical Sciences, and Engineering)

Institution	Mathematics, Physical Sciences, and Engineering	Life Sciences	Social Sciences	Total MSE Baccalaureate Degrees Awarded
New Mexico State University-Main Campus	76	22	18	116
University of New Mexico-Main Campus	43	64	25	132
New Mexico Highlands University	14	21	7	42
New Mexico Institute of Mining and Technology	14	0	4	18
Eastern New Mexico University-Main Campus	5	16	4	25
Western New Mexico University	3	12	0	15
College of Santa Fe	1	0	1	2

Source: Unpublished data from the National Center for Education Statistics, U.S. Department of Education

- Notes: (1) Some states may not have 10 institutions listed because (a) there were fewer than 10 institutions in the state or (b) fewer than 10 institutions awarded degrees in mathematics, the physical sciences, and engineering to non-Asian minorities in 1992-93.
- (2) If institutions are ranked by the total number of MSE degrees awarded, the "top ten" list of institutions may vary.

## NEW MEXICO

### Introduction

New Mexico, with a 1990 population of approximately 1.5 million, ranks 37th in the nation in size of population. It is home to approximately 1.4 percent of non-Asian minorities and enrolls 1.2 percent of the nation's minority college students. In 1990, non-Asian minorities constituted 49 percent of the total population of the state.\* Among the states chosen for QEM's survey<sup>1</sup>, New Mexico ranks fourth and seventh with respect to Native American and Hispanic college enrollment, respectively.<sup>2</sup>

**Table NM-I**  
New Mexico Population by Race/Ethnicity  
(in thousands)

1990	Total	African Americans	American Indians	Asians	Hispanics	Whites Non-Hispanics	Non-Asian Minority Population
New Mexico Total Population	1,515	30	134	14	579	758	743
% of New Mexico Population	100.0	2.0	8.8	0.9	38.2	50.0	49.0

Source: 1990 U.S. Census Data.

\* Quality Education for Minorities (QEM) Network, Washington DC, 1996. "Statistical Profile of New Mexico."

## MSE Degrees in New Mexico

In 1992-93, non-Asian minorities received 350 MSE baccalaureate degrees (Table NM-II), which is only 58 percent of the 600 baccalaureate degrees projected as New Mexico's proportionate "fair share" of NSF's goal. Four non-Asian minorities received doctoral degrees in an MSE field during the academic year, one-sixth of the 24 projected as the state's "fair share" of the NSF's goal for MSE doctorates.

**Table NM-II**  
MSE Degrees Awarded in New Mexico,  
by Race/Ethnicity, 1992-1993

	Bachelor's	Master's	Doctorates
African Americans	21	2	1
American Indians	24	6	0
Asians	27	7	1
Hispanics	305	46	3
Whites	989	267	79
Total Degrees	1366	328	84
Total Non-Asian Minorities	350	54	4
% of Degree Awarded to Non-Asian Minorities	25.6	16.5	4.8

Source: Unpublished data from New Mexico Commission of Higher Education.

## New Mexico Institutional Responses

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## New Mexico Institutional Responses

All seven higher education institutions in New Mexico that received surveys responded: College of Santa Fe, Eastern New Mexico University, New Mexico Highlands University, New Mexico Institute of Mining and Technology, New Mexico State University, University of New Mexico, and Western New Mexico University. Summary information on these universities and their survey responses follow.

### College of Santa Fe

**Dr. James A. Lawrence, Vice President for Academic Affairs**

1600 St. Michaels Drive

Santa Fe, NM 87501

Enrollment: 1,518

Highest Offering: Master's

tel: 505/473-6011

fax: 505/473-6504

homepage: <http://www.state.nm.us/cs7>

### About the Institution

In 1859, the first Bishop of the Territory of New Mexico requested that the Christian Brothers, a Roman Catholic teaching order, establish a school for boys in Santa Fe. By 1874, the College of the Christian Brothers of New Mexico was chartered by the Territorial Legislature. Today, while there are not many Brothers on the faculty, the College of Santa Fe (CSF) retains its heritage by maintaining a mission of sound teaching, diligent advising, and explicit attention to ethics and values in all its educational programs and activities.

CSF is New Mexico's largest private college and is governed by an independent Board of Trustees. CSF ranks among the top 10 liberal arts institutions in the West, according to the 1995 and 1996 editions of *America's Best Colleges* published by *U.S. News & World Report*.

More than 40 majors and concentrations are available at CSF leading to a Bachelor of Arts, Bachelor of Science, Bachelor of Fine Arts, Master of Arts (education), or Master of Business Administration degree. For three out of the past four years, a College of Santa Fe professor has been named the Carnegie New Mexico Professor of the Year.

## Support Services and College Environment

Scholarships, grants, loans, and campus employment are available to eligible students. The University also offers internships and co-operative education opportunities. Priority consideration for scholarships is given to students who apply before March 1.

Formal and informal study groups and tutorials in mathematics and science are available through the Office of Student Services. Tutoring, workshops, counseling and other resources are available to eligible students through The Center for Academic Development (CAD).

Being part of the College of Santa Fe means more than just going to class. It also means meeting new friends or joining a pick-up game of basketball at the gym. On campus, one can attend art openings, theater performances, or screenings of student videos in the Garson Communications Center. There are regular readings of student-written poetry and fiction and concerts by music majors.

In addition to an active day time, residential campus, the College of Santa Fe also offers comprehensive Graduate and External Programs (GEP), in which adult learners may pursue a degree by attending classes on the weekends and in the evenings. In Albuquerque, the College of Santa Fe serves New Mexico's largest city with GEP programs in business, education, psychology, and public administration.

The College of Santa Fe has increased its recruitment efforts in New Mexico and has established formal and informal articulation agreements with community colleges in the state. Community-focused outreach activities are provided through the Hispanic Association of Colleges and Universities. CFS strongly encourages potential students to visit the campus, and has a special campus visitation program called Weekend Fiesta. Weekend Fiesta participants sit in on classes, meet professors, get acquainted with the city, and enjoy an outdoor excursion. Participants stay in one of the residence halls with host students and eat meals in the campus cafeteria.

**Eastern New Mexico University Main Campus**  
**Dr. George Mehaffy, Vice President for Academic Affairs**  
Portales, NM 88130  
Enrollment: 3,853  
Highest Offering: Master's

tel: 505/562-1011  
fax: 505/562-2409  
homepage: <http://www.enmu.edu>

### **About the Institution**

Eastern New Mexico University, founded in 1927, currently enrolls more than 3,800 students. Recruiters and faculty visit high schools, use mailings, and identify potential MSE students through the New Mexico Mathematics, Engineering, and Science Achievement (MESA) Jamboree. Through the Department of Mathematical Sciences, the New Mexico Alliance for Minority Participation (NMAMP) offers a four-week residential summer bridge program for minority students interested in MSE careers. Students receive stipends and the program targets incoming freshmen. The University also has Upward Bound and Talent Search programs. In addition, the Bilingual Education Program has a summer program, "*Un Paso Adelante*," that introduces students to college life and opportunities in bilingual education.

### **Support Services and College Environment**

Although outstanding students are eligible for University-wide academic scholarships, each department also offers several scholarships through the Administration Office, the Office of Development, and NMAMP. A number of mathematics, engineering technology, and chemistry majors have received undergraduate research assistantships through the Coalition to Increase Minority Degrees (CIMD) and NMAMP.

Each student is assigned a faculty advisor. The science departments sponsor field trips and seminars. Geology, Wild Life Management, and other science clubs sponsor events throughout the year. The coordinator of NMAMP and several other faculty members have a special interest in or reputation for working with minority students.

The Career Services Office provides advising, information, and counseling on career, summer, and graduate school opportunities. NMAMP also disseminates information to MSE faculty and minority students. In order to enrich the lives and the minds of the students, the University sponsors a variety of cultural and social events under

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the theme, "Celebrating Diversity." The campus has chapters of active service organizations as well as bilingual student organizations that sponsor outreach events during the year. The University also sponsors an annual science fair.

**New Mexico Highlands University**  
**Dr. John Pacheco, Vice President for Academic Affairs**  
**Las Vegas, NM 87701**  
**Enrollment: 2,821**  
**Highest Offering: Master's**

tel: 505/425-7511  
fax: 505/454-3069  
homepage: <http://www.nmhu.edu>

### **About the Institution**

New Mexico Highlands University was established in 1893 and currently enrolls more than 2,800 students. The Comprehensive Regional Center for Minorities (CRCM) Program and New Mexico Mathematics, Engineering, and Science Achievement (NMMESA) collaborate to increase interest in mathematics and science careers at New Mexico Highlands University. The effort has expanded the region served and doubled the number of schools visited. In addition, middle school students participate in a one-week residential program in mathematics and science sponsored by CRCM. Other recruitment strategies include a visiting scientists program, on-campus science demonstrations for high school students, and student contacts through the Quality Education for Minorities (QEM) Teacher Leadership Corps (TLC). Another University program, Upward Bound, serves students as a bridge to college through a four-to-six week summer experience.

New Mexico Highlands has articulation agreements with several community colleges. A general education common core transfer agreement exists that meets New Mexico's required 35-hour common core agreement. The University will accept an associate degree as a minor; also, students may take general courses in mathematics and science for three years off-site, finishing the final year at the University.

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## Support Services and College Environment

The University has a regular scholarship program open to all students. The Academic Center for Excellence (ACE) offers tutoring, counseling, and orientation services. Individual departments and student organizations also offer tutoring services. In addition, TRIO programs provide various informal support services to students. Interdepartmental Structured Tutorials enable students who are failing a course to re-take it. The University Career Placement/Job Center provides students with advice and counseling on career, summer, and graduate school opportunities.

The New Mexico CRCM and the New Mexico American Indian Tribes sponsor a Community Academy for Science and Mathematics for children and adults. The University is a member of the American Indian Science and Technology Consortium (AISTEC), a NASA-funded collaborative among 10 institutions of higher education ranging from two-year community colleges to Ph.D. granting universities. The consortium is designed to institutionalize the successful, proven programs and networks developed by individual consortium members that focus on communities, K-12 schools, and four-year colleges.

**New Mexico Institute of Mining and Technology**  
**Dr. Carl J. Popp, Vice President for Academic Affairs**  
**Socorro, NM 87801**  
**Enrollment: 1,663**  
**Highest Offering: Doctorate**

tel: 505/835-5011  
fax: 505/835-5659  
homepage: <http://www.nmt.edu>

### About the Institution

The New Mexico Institute of Mining and Technology was established in 1889. The Admissions Office and the Minority Programs Office collaborate in order to implement a comprehensive recruitment regimen. This includes college fairs, specific initiatives focused on state-wide feeder schools, and a two-week residential program for 11th and 12th graders.

## Support Services and College Environment

Support is provided through the National Science Foundation-funded Alliance for Minority Participation (AMP) Program for tutoring, scholarships, and research opportunities. All students are assigned to specific advisors and formal and informal peer group study opportunities are available in physics, chemistry, and pre-calculus. A number of student chapters of scientific organizations exist on campus. These include the American Indian Science and Engineering Society (AISES), the Mexican American Engineering Society (MAES), and the Society for Hispanic Professional Engineers (SHPE). Several faculty members have special interests in working with minority students outside of their regular office hours.

The University communicates with various community colleges and graduate schools throughout the region. It also maintains a network connection with various industries and employers in New Mexico and throughout the country in order to supply students with up-to-date information on academic and/or career possibilities. The University encourages and provides outreach activities to the community, including the annual Minority Student Leadership Conference, Counselors' Day, Open House, Pow-Wow, and Mathematics, Engineering, and Science Achievement (MESA) programs and activities.

### New Mexico State University

**Dr. Juan Franco, Vice President for Academic Affairs**

**Box 3z**

**Las Cruces, NM 88003**

**Enrollment: 15,643**

**Highest Offering : Doctorate**

**tel: 505/646-0111**

**fax: 505/646-6334**

**homepage: <http://www.nmsu.edu>**

### About the Institution

New Mexico State University (NMSU) was founded in 1888 as Las Cruces College. In 1890 it became the land-grant educational institution for the Territory of New Mexico, and its name was changed to New Mexico College of Agriculture and Mechanic Arts. Under the provisions of the Morrill Act of 1862 and subsequent federal legislation,

the special mission of the Institution has been to provide a liberal and practical education for students and to sustain programs of research, extension education, and public service.

In 1960, New Mexico College of Agriculture and Mechanic Arts became New Mexico State University. Since that time, while sustaining excellence in those programs traditionally associated with land-grant institutions, NMSU has become a comprehensive doctoral level university offering a wide variety of programs through the Graduate School and its colleges.

NMSU has a comprehensive plan to recruit and retain minorities. The plan encompasses 20 programs, several of which are externally funded and support increased recruitment, retention, and graduation of minorities. The New Mexico Alliance for Minority Participation (NMAMP) and the Ronald E. McNair Fellowship are two examples of such programs. A six-month residential, pre-college science program is available for 12th grade students. NMSU also has a state-mandated articulation agreement with community colleges in New Mexico.

### **Support Services and College Environment**

NMSU scholarship programs are open to all qualified students. Students may receive financial support for engaging in research through the Honors Program and the McNair Scholars Program. Also, the Center for Learning Alliance and the Student Support Service Program offer paid tutoring opportunities. Through the Cooperative Education Program, students are compensated and obtain work experiences in industry.

Minority student organizations, many of which are discipline-based, offer additional supportive resources. Formal and informal student study groups are available in all departments. Several offices offer tutorials in mathematics and science. Placement and Career Services and the Cooperative Education Offices provide advice, information, and counseling on career, summer, and graduate school opportunities to all students.

The Student Support Services Program for low-income, first generation, or disabled students offers academic tutoring in specific subject areas. The Center for Learning Assistance, which is open to all students, offers assistance in study skills, learning skills, and preparation for tests. Outreach activities are conducted in collaboration with the Hispanic Chamber of Commerce and the Hispanic Leadership Program.



**University of New Mexico Main Campus**  
**Dr. Mary Sue Coleman, Vice President for Academic Affairs**  
**Albuquerque, NM 87131**  
**Enrollment: 24,334**  
**Highest Offering: Doctorate**

**tel: 505/277-0111**  
**fax: 505/277-6019**  
**homepage: <http://www.unm.edu>**

### **About the Institution**

The University of New Mexico was established in 1889. It is a richly diverse institution that has several strengths, including: its emphasis on teaching and undergraduate education as seen in the breadth and depth of academic courses; its stature as a research institution as seen in the quality of its graduate programs; its role in professional education, including the Medical School, the Law School, and School of Architecture and Planning; and its commitment to quality as seen in the expectations the University has of its students, faculty, and staff.

The Office of Student Outreach Services (SOS) in Student Affairs has special recruitment programs targeted at Hispanic and Native American high school students. The School of Engineering has several programs for recruiting students into engineering, mathematics, and science. These include the Minority Engineering, Mathematics, and Science (MEMS) program that targets underrepresented students and arranges visits to high schools with high minority enrollments; a program that recruits Native American students throughout the Southwest; a NASA training program that recruits talented, high achieving minority and other students statewide; and the Student Programs Office that recruits high school students into engineering and computer science. The University also works closely with NMMESA, a statewide pre-college program that impacts 2,500 minority and disadvantaged students in more than 65 K-12 schools in the state. In addition, the University participates in the Comprehensive Research Center for Minorities (CRCM) based at New Mexico Highlands University.

The University has formal articulation agreements with all two-and four-year colleges in the state. The School of Engineering, through MEMS, is funding three community colleges to implement an MSE academic support program to ensure success for minorities. Activities and opportunities include study groups, scholarships, undergraduate research opportunities, and summer bridge programs.

## Support Services and College Environment

Students receive scholarships, grants, loans, and part-time employment through the Office of Student Financial Aid. Campus-wide, several other organizations sponsor undergraduate research programs. In addition, scholarships are made available through specific programs in science and engineering. For example, the School of Engineering has an undergraduate research program through MEMS that places 20 minority and female students in research positions with faculty. The College of Arts and Sciences has well-established research programs. The School of Medicine also utilizes undergraduates to conduct research. Most departmental faculty utilize undergraduates on their research projects. The University does not normally use undergraduates for teaching purposes; however, MSE departments use students as tutors, discussion and study group leaders, and graders.

All students, except those majoring in engineering, take general education courses and are advised by the staff in University College. Freshmen in engineering are advised by the central advising office. MSE upperclassmen receive advice from faculty and staff. Departmental meetings held for students in engineering and arts and sciences encourage students to participate in various programs. The University's Center for Academic Program Support (CAPS) offers a campus-wide tutoring program as does Hispanic Student Services. The School of Engineering, collaborating with the College of Arts and Sciences, has structured group tutoring that is focused on all MSE majors. Study groups meet two or three times a week for two-hour sessions in both mathematics and science.

In Engineering, student chapters of national societies include the Society of Hispanic Professional Engineers, the Society of Mexican American Engineers, the American Indian Science and Engineering Society, the National Society of Black Engineers, the Society of Women Engineers, and the Minority Engineering, Mathematics, and Science Student Organization. Non-minority students also participate in these organizations. In addition, the Biology Buddy's Program provides freshmen with upper-class student mentors.

**Western New Mexico University**  
**Dr. Kathie Gilbert, Vice President for Academic Affairs**  
**College Avenue**  
**Silver City, NM 88061**  
**Enrollment: 2,269**  
**Highest Offering: Master's**

**tel: 505/538-6011**  
**fax: 505/538-6155**  
**homepage: <http://www.wunm.edu>**

### **About the Institution**

Western New Mexico University (WNMU), established in 1893, provides students with a quality education to prepare them for the career of their choice. The University offers more than 70 fields of study at the certificate, associate, bachelor's and master's degree levels. WNMU aggressively recruits underrepresented students, especially Hispanics. The University adheres to New Mexico standards regarding community college articulation.

Faculty members at Western are in the top ranks in their fields with more than 75 percent holding a doctorate or terminal degree. Because the faculty are dedicated educators and are not extensively involved in research programs, students can receive more individual attention. The Miller Library, located in the heart of the campus, carries more than 98,000 books and more than 34,000 microform titles. Ground breaking of an expansion slated for 1995 will double the size of the current library and media center. Other historic buildings on campus are being renovated to meet the needs of a 21st century university.

### **Support Services and College Environment**

Student support services include tutoring, the Peer/Mentor program, the Learning Resource Center, career services, and counseling. Formal and informal student study groups also exist on campus. The Supplemental Student Instructor Program provides leadership and instructional assistance to students in history, mathematics, and literature courses. In addition, a summer bridge program in mathematics and science supports local high school students, easing the transition from high school to college.

The computer needs of WNMU are met by a variety of technologies. WNMU has a well-equipped computer laboratory with more than 110 micro-computers, 12 VAX terminals, and two UNIX workstations. The Learning Resource Center and Miller Library also contain additional micro-computers for student use.

## FEATURES\* OF SUPPORT SERVICES AND COLLEGE ENVIRONMENT

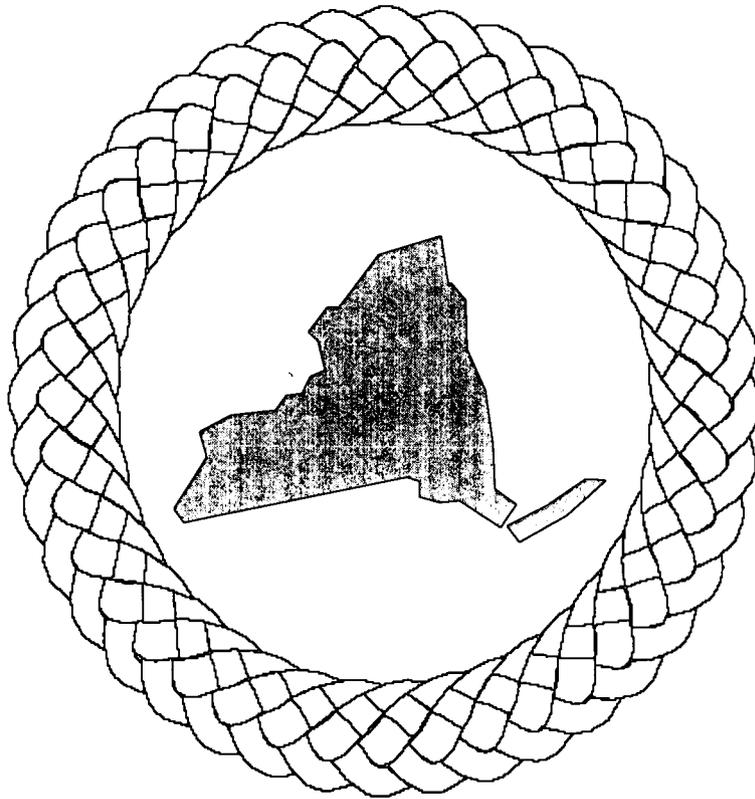
(Institutions are listed in rank order according to the number of MPSE Degrees Awarded to Minority Students in 1992-93)

### NEW MEXICO

INSTITUTION	COMMUNITY OUT-REACH	SPECIAL RECRUITMENT	SPECIAL SCHOLARSHIPS	SPECIAL OFFICE	SPECIAL COUNSELORS	ACCESSIBLE FACULTY	SUMMER BRIDGE	SPECIAL TUTORING	STUDY GROUPS	MSE STUDENT ORGANIZATIONS	ONE ON ONE ADVISING	PEER TUTORS	OTHER
New Mexico State University- Main Campus	√	√	√		√		√	√	√	√		√	Formal MSE Collaborative
University of New Mexico- Main Campus	√	√	√		√		√	√	√	√		√	Undergraduate Research
New Mexico Highlands University	√	√		√	√		√	√		√			Formal MSE Collaborative
New Mexico Institute of Mining and Technology	√	√	√		√	√		√	√	√	√		Undergraduate Research; Formal MSE Collaborative
Eastern New Mexico University- Main Campus	√	√	√		√	√	√			√	√		Undergraduate Research; Formal MSE Collaborative
Western New Mexico University		√			√		√	√	√		√	√	
College of Santa Fe	√	√			√			√	√	√			Internships; Co-Op Program

\* - Based upon information provided in institutional responses to QEM survey

# New York



# NEW YORK

"TOP TEN" INSTITUTIONS IN NON-ASIAN MINORITY MSE BACCALAUREATE DEGREES AWARDED, 1992-93  
(Ranked by number of degrees awarded in Mathematics, the Physical Sciences, and Engineering)

Institution	Mathematics, Physical Sciences, and Engineering	Life Sciences	Social Sciences	Total MSE Baccalaureate Degrees Awarded
CUNY, City College	125	29	102	256
Rensselaer Polytechnic Institute	54	0	0	54
Cornell University	51	26	31	108
Pratt Institute, Main Campus	49	0	0	49
Manhattan College	29	5	0	34
Polytechnic University	28	0	0	28
College of Aeronautics	28	0	9	37
New York Institute of Technology, Old Westbury	26	4	32	62
New York Institute of Technology, Manhattan Campus	22	0	3	25
CUNY, York College	16	10	0	26

Source: Unpublished data from the National Center for Education Statistics, U.S. Department of Education

Notes: (1) Some states may not have 10 institutions listed because (a) there were fewer than 10 institutions in the state or (b) fewer than 10 institutions awarded degrees in mathematics, the physical sciences, and engineering to non-Asian minorities in 1992-93.

(2) If institutions are ranked by the total number of MSE degrees awarded, the "top ten" list of institutions may vary.

## NEW YORK

## Introduction

New York, with a 1990 population of approximately 18 million, ranks second in the nation in state population. It is home to approximately 9.5 percent of non-Asian minorities in the nation and enrolls 9.2 percent of non-Asian minority college students in the country.\* Among the states chosen for QEM's survey<sup>1</sup>, New York ranks second in terms of both Asian and African American college enrollment and third and ninth regarding Hispanic and American Indian college enrollment, respectively.<sup>2</sup>

**Table NY-I**  
New York Population by Race/Ethnicity  
(in thousands)

1990	Total	African Americans	American Indians	Asians	Hispanics	Whites	Non-Asian Minority Population
New York Total Pop.	17,990	2,859	63	694	2,214	12,160	5,136
% of New York Population	100.0	15.9	0.4	3.9	12.3	67.6	28.6

Source: 1990 U.S. Census Data.

\* Quality Education for Minorities (QEM) Network, Washington, DC, 1996. "Statistical Profile of New York."

## MSE Degrees in New York

During the 1992-1993 academic year, 2,997 non-Asian minorities received the baccalaureate degree in an MSE field in New York, 65 percent of the 4,600 degrees projected as New York's "fair share" of the NSF goal. Only 50 non-Asian minorities received the Ph.D. degree in an MSE field in New York during the 1992-1993 academic year, which is only 27 percent of the 184 MSE doctoral degrees projected as New York's "fair share" of the NSF goal.

**Table NY-II**  
MSE Degrees Awarded in New York State  
by Race/Ethnicity, 1992-93

	Bachelor's	Master's	Doctorate
African Americans	1,801	216	20
American Indians	58	10	0
Asians	1,850	412	107
Hispanics	1,138	144	30
Whites	17,699	3,000	884
Total	22,546	3,782	1,041
Total Earned by Non-Asian Minorities	2,997	370	50
% of Total Earned by Non-Asian Minorities	13.3	9.8	4.8

Source: Unpublished data from U.S. Department of Education, National Center for Education Statistics.

## New York Institutional Responses

Three of the eight higher education institutions in New York that received surveys responded: City University of New York (CUNY) City College, College of Aeronautics, and Cornell University. Summary information on these universities and their survey responses follow.

**City University of New York (CUNY) City College**  
**Dr. Mirella Affron, Acting Vice President for Academic Affairs/Provost**  
**2800 Victory Boulevard**  
**New York, NY 10314**  
**Enrollment: 14,160**  
**Highest Offering: Master's**

**tel: 718/982-2000**  
**fax: 718/982-2245**  
**homepage: [http://www.cuny.edu/about\\_cuny/csi.html](http://www.cuny.edu/about_cuny/csi.html)**

### About the Institution

The City College of New York (CCNY) was founded in 1847 and is part of the City University of New York (CUNY) system. The College has more than 50 graduate programs and includes the largest complex of professional schools in the CUNY system. It ranks second in the nation in the production of minority engineering graduates with bachelor's degrees and ranks first in the number of African American and Hispanic students earning master's degrees in an engineering field.

CCNY uses a number of strategies to recruit minority students, including making contacts with high school students and inviting students to the campus to visit science laboratories, meet faculty, and discuss college life with current students. Recruiters make on-site visits to high schools and community colleges and hold open houses and career fairs on campus to attract new students. Recruiters also make telephone calls and send out mailings periodically to high school guidance counselors at several targeted area schools. The School of Engineering has developed formal articulation agreements with New York City community colleges that enroll a large number of minority students.

## Support Services and College Environment

CCNY offers a large number of federal and state loans and scholarships. The School of Engineering's Office of Student Programs manages all awards, grants, and scholarships for engineering students. Minority-based scholarships are coordinated by the Office of Minority Engineering. Last year, over \$75,000 was awarded to minority engineering students through more than 15 scholarship programs.

Undergraduate research and tutoring opportunities are available to students majoring in science through the City College Academy Professional Preparation Program. The Minority Access to Research Careers (MARC) and the Minority Biomedical Research Support (MBRS) programs also offer research opportunities to students. The School of Engineering has approximately 95 minority students who participate in programs for underrepresented minorities in science and engineering. Two of these programs are the National Science Foundation-funded Alliance for Minority Participation (AMP) and Research Careers for Minority Scholars (RCMS). Students can serve as tutors or instructors in the Engineering Learning Center. In addition, tutorial workshops are provided for all students in science courses. A four-week, pre-freshman summer program helps prepare entering students for their first college level courses.

The Office of Career Services and the Engineering Students' Cooperative Education Program provide students with information on summer employment, career options, and graduate schools. More than 500 minority New York City 10th and 11th grade students annually participate in a pre-college activity, The Select Program. This program seeks to increase students interest in pursuing science and engineering careers.

The College has a diverse student body. Classes are usually small with a student-faculty ratio of about 15 to 1. Faculty members are accessible to students during scheduled office hours or for small conferences. Departments hold meetings with their majors at least once during the academic year to discuss changes in the curriculum, academic planning, and advisement. Study groups are developed by departments and led by graduate students who encourage freshmen to attend. The administration, faculty, and students are encouraged to participate in outreach and retention activities for minority students.

**College of Aeronautics**  
**Dr. John C. Fitzpatrick, Vice President**  
**La Guardia Airport**  
**Flushing, New York 11371**  
**Enrollment: 979**  
**Highest Offering: Baccalaureate**

**tel: 718/429-6600**  
**fax: 718/429-0256**

### **About the Institution**

The College of Aeronautics was established in 1932 and is located in Flushing, New York. Classes are held at La Guardia Airport, and many students are attracted to the college because of its location.

### **Support Services and College Environment**

The College offers several tutorial sessions through various departments and academic clubs. Pre-college programs are held during the academic year and summer for junior high and senior high school students. Each year, the College sponsors a summer bridge program for incoming freshmen. The program is designed to help students make the transition from high school to college.

Students who are having difficulty in a particular course may join one of a number of study groups. The purpose of these groups is to assist students in their courses and help ensure they are able to pass required tests. The Engineering Club holds regular meetings and lectures for engineering majors. The administration, faculty, and staff of the college are dedicated to making the learning process rewarding for all students.

**Cornell University**  
**Dr. Gunars Reimanis, Dean of the College**  
**Ithaca, NY 14830**  
**Enrollment: 18,914**  
**Highest Offering: Doctorate**

**tel: 607/962-9011**  
**fax: 607/926-9456**  
**homepage: <http://www.cornell.edu>**

### **About the Institution**

Cornell University was founded in 1868 by Ezra Cornell and Andrew D. White. The major goal of the institution at its founding was to offer instruction to all who were qualified, regardless of sex or race. Today, Cornell continues to have this goal. The University is a member of the Ivy League and is a land-grant institution. The Center for Theory and Simulation in Science and Engineering at Cornell is one of only four facilities in the United States designated by the National Science Foundation as a national super computing facility.

Cornell has several recruitment strategies designed to increase the number of minorities enrolled in mathematics, science, and engineering (MSE) programs. For example, the Cornell Environmental Sciences Internship Program provides an opportunity for 11th grade students to explore the environmental sciences. The College of Veterinary Medicine conducts a six-week summer program for minority pre-veterinary college students to enhance their clinical and research experience. The University also sponsors a ten-week apprenticeship program that introduces ten minority high school students to veterinary medicine. The Mellon Minority Undergraduate Fellowship Program identifies five to eight talented undergraduate minority students to work with faculty mentors who will encourage them to pursue graduate study.

The Program for Research Orientation with Faculty (PROF) helps place more than 40 minority students in research laboratories as part of their work-study obligation. Ten of these students develop lesson plans to teach DNA fingerprinting techniques to inner city high school students. Each year, the College of Engineering uses college fairs, minority community service organizations, and high school teachers and counselors to help recruit underrepresented minority students. Latino and Native American college students participated in a recent Mathematical Sciences Institute, offered jointly by Cornell and the Society for the Advancement of Chicano and Native Americans in Science (SACNAS). This effort was used to recruit more Chicano and Native American students.

## Support Services and College Environment

The University Admissions Office has a coordinator for minority admissions who works with staff from each of the colleges to visit high schools and help recruit minorities. The Cornell Summer Pre-freshman Program is an eight-week activity for underrepresented minority students admitted to the University who might need additional preparation in mathematics and science. The University also works closely with community colleges in New York to articulate student transfers to Cornell.

The University offers support for students who are in need of financial aid. Outstanding students are nominated by the admissions staff and are eligible for the Cornell National Scholarship that will replace \$1,500 per year of a student loan. Cornell Tradition Fellowships provide a \$2,500 loan replacement for students involved in community service and who work during the academic year.

Cornell organizes an Undergraduate Research Forum during the academic year and the summer students present their research findings through poster and paper sessions. Programs that support minority MSE students include the Minority Summer Research Exchange Program, the Cornell Environmental Sciences Undergraduate Research Experience, and Research Experiences for Undergraduate Students. Within each college at Cornell, the Committee on Special Education Projects (COSEP) provides information, advice, and counseling regarding summer, career, and graduate school opportunities. The Career Center at Cornell sponsors a Minority Career Forum in conjunction with several minority undergraduate student organizations.

Through the Office of Minority Educational Affairs and COSEP, each undergraduate college at Cornell has an assistant dean, or the equivalent, who advises minority students. Study groups are developed for MSE majors in various departments. Reading, lectures, and debates are sponsored by several campus organizations. MSE faculty advisors are accessible to counsel students on academic issues and other concerns. Several student organizations, including the National Society of Black Engineers, are available to students. Also, the Cornell Public Service Center offers volunteer work for interested students and supports special initiatives such as the Martin Luther King, Jr. Birthday Celebration and the American Indian Project where students work on reservations during spring break.

Upon graduation, minority students can continue to be informed about the University and its MSE programs by joining the Black Alumni Association, the Latino Alumni Association, and/or the Cornell Alumni Association. Each alumni organization is active in recruiting minority students and raising funds for financial aid. Cornell University is committed to recruiting and retaining more minority students in the field of mathematics, science, and engineering.

## FEATURES\* OF SUPPORT SERVICES AND COLLEGE ENVIRONMENT

(Institutions are listed in rank order according to the number of MPSE Degrees Awarded to Minority Students in 1992-93)

### NEW YORK

INSTITUTION	COMMUNITY OUT-REACH	SPECIAL RECRUITMENT	SPECIAL SCHOLARSHIPS	SPECIAL OFFICE	SPECIAL COUNSELORS	ACCESSIBLE FACULTY	SUMMER BRIDGE	SPECIAL TUTORING	STUDY GROUPS	MSE STUDENT ORGANIZATIONS	ONE ON ONE ADVISING	PEER TUTORS	OTHER
CUNY, City College	√	√	√	√		√	√	√	√			√	Undergraduate Research
Rensselaer Polytechnic Institute**													
Cornell University	√	√	√	√	√		√		√	√			Undergraduate Research
Pratt Institute, Main Campus**													
Manhattan College**													
Polytechnic University**													
College of Aeronautics	√					√	√	√	√	√			
New York Institute of Tech., Old Westbury**													
New York Institute of Technology, Manhattan Campus**													
CUNY, York College**													

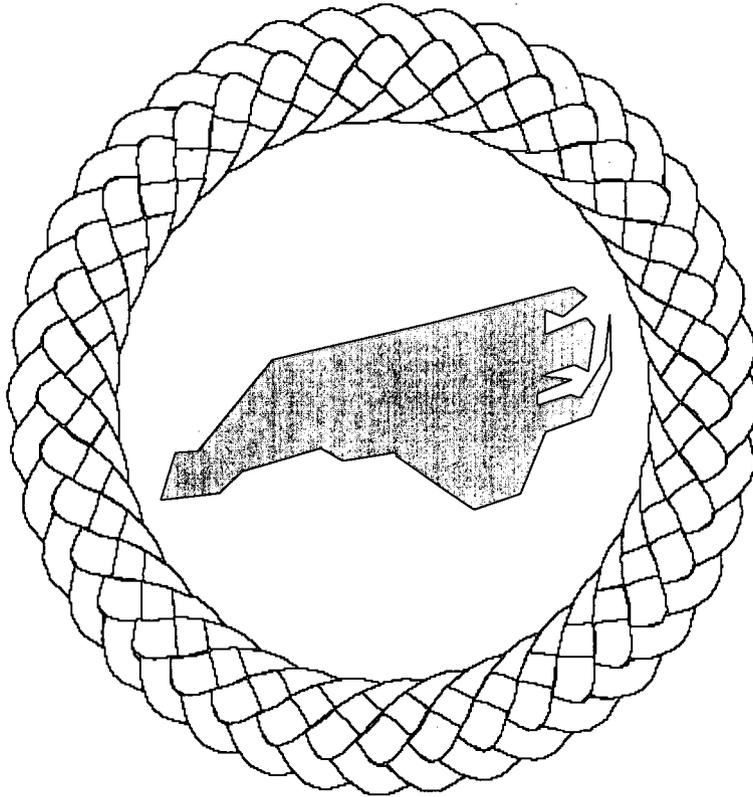
\* - Based upon information provided in institutional responses to QEM survey

\*\* - Did not return survey

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# North Carolina



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# NORTH CAROLINA

"TOP TEN" INSTITUTIONS IN NON-ASIAN MINORITY MSE BACCALAUREATE DEGREES AWARDED, 1992-93  
(Ranked by number of degrees awarded in Mathematics, the Physical Sciences, and Engineering)

Institution	Mathematics, Physical Sciences, and Engineering	Life Sciences	Social Sciences	Total MSE Baccalaureate Degrees Awarded
North Carolina A& T State University	174	18	29	221
North Carolina State University at Raleigh	95	22	28	145
North Carolina Central University	24	30	142	196
Duke University	19	11	39	69
Elizabeth City State College	12	11	0	23
University of North Carolina, Chapel Hill	11	30	66	107
Pembroke State University	8	22	49	79
Saint Augustine's College	8	5	58	71
Johnson C. Smith University	7	8	0	15
Bennett College	7	4	0	11

Source: Unpublished data from the National Center for Education Statistics, U.S. Department of Education

- Notes: (1) Some states may not have 10 institutions listed because (a) there were fewer than 10 institutions in the state or (b) fewer than 10 institutions awarded degrees in mathematics, the physical sciences, and engineering to non-Asian minorities in 1992-93.
- (2) If institutions are ranked by the total number of MSE degrees awarded, the "top ten" list of institutions may vary.

## NORTH CAROLINA

### Introduction

North Carolina, with a 1990 population of approximately 6.6 million, ranks 10th in the nation in size of population. It is home to approximately 3.0 percent of all non-Asian minorities nation-wide, and enrolls 2.6 percent of minorities at the college level.\* Among the states chosen for QEM's survey<sup>1</sup>, North Carolina ranks sixth in terms of African American enrollment and 10th in terms of American Indian enrollment<sup>2</sup>.

**Table NC-I**  
**North Carolina Population by Race/Ethnicity**  
 (in thousands)

1990	Total	African Americans	American Indians	Asians	Hispanics	Whites	Non-Asian Minority Population
North Carolina Total Population	6,629	1,456	80	52	77	4,964	1,613
% of North Carolina Population	100.0	21.9	1.2	0.8	1.2	74.9	24.3

Source: 1990 U.S. Census Data.

NORTH CAROLINA

\* Quality Education for Minorities (QEM) Network, Washington, DC, 1996. "Statistical Profile of North Carolina."

## MSE Degrees in North Carolina

In 1992-1993, MSE baccalaureate degrees earned by non-Asian minorities totaled 1,480, which is 114 percent of the 1,300 degrees projected as North Carolina's "fair share" of the NSF's goal. However, at the doctoral level, only 24 non-Asian minorities received Ph.D.'s in MSE fields, which represents 46.2 percent of the 52 degrees projected as North Carolina's "fair share" of NSF's goal for the nation. While non-Asian minorities accounted for 24 percent of the population in 1990, they earned only 6.2 percent of the total doctoral degrees in the state.

**Table NC-II**  
MSE Degrees Awarded in North Carolina  
by Race/Ethnicity, 1992-93

	Bachelor's	Master's	Doctorates
African Americans	1,331	69	12
American Indians	82	8	0
Asians	276	57	20
Hispanics	67	9	12
Whites	6,976	773	340
Total	8,732	916	384
Total Earned by Non-Asian Minorities	1,480	86	24
% Earned by Non-Asian Minorities	16.9	9.4	6.3

Source: Unpublished data from United States Department of Education, National Center for Education Statistics.

## North Carolina Institutional Responses

Seven out of 10 higher education institutions in the state that received survey questionnaires from QEM responded: Duke University, Elizabeth City State University, North Carolina A&T State University, North Carolina Central University, North Carolina State University, Pembroke State University, and University of North Carolina at Chapel Hill. Summary information on these universities and their survey responses follow.

### Duke University

Dr. John W. Strohbehn, Provost

Durham, NC 27706

Enrollment: 11,352

Highest Offering: Doctorate

tel: 919/684-8111

fax: 919/684-3200

homepage: <http://www.duke.edu>

### About the Institution

Duke University, located in Durham, North Carolina, was founded in 1924 by James Buchanan Duke as a memorial to his father, Washington Duke. The University was ranked fourth among the top 25 national universities by *U.S. News & World Report* in 1995. Duke offers a number of pre-college programs for minority students including: the Howard Hughes Pre-College Program, a six-week mentorship program for women and minorities in the biological sciences; the Talent Identification Program; and the Engineering Outreach Program. In an effort to increase minority student enrollment, the Office of Undergraduate Admissions has assigned an individual to cover Hispanic recruitment and another to cover African American and Native American recruitment. These individuals attend several college fairs and visit targeted high schools.

The Fly-In Program, another program sponsored by the University, brings about 20 top African American applicants to Duke in February at Duke's expense. In addition, each March the Black Student Alliance invites approximately 120 African American students who are likely to be admitted to spend four days on the campus. They are hosted by current Duke students and attend classes and other informational sessions. The Admissions Office administers minority phon-a-thons in which current minority students call accepted minority students and encourage them to attend Duke.

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## Support Services and College Environment

All incoming students are automatically considered for a variety of Duke scholarships. Duke has a need-blind admissions policy and the Financial Aid Office works to cover 100 percent of demonstrated need for each undergraduate student. Grants, loans, scholarships, and work-study assistance offered by Duke include: the Reginaldo Howard Memorial Scholarships, four-year scholarships annually awarded to incoming African American students who meet a required GPA; B.N. Duke Loan Replacement Program, a program that provides North and South Carolina students with up to \$2,000 to replace loans; B.N. Duke Leadership Scholarship, a merit-based scholarship for North and South Carolina students that covers 75 percent of a student's tuition costs; A.B. Duke Scholarship, a scholarship that provides full tuition plus a summer stipend for study at Oxford; Trinity Scholarships that provide North Carolina residents with tuition, room, and board costs; and at least 100 outside scholarships.

In addition to financial assistance, Duke provides a variety of academic support services. The Computing Research Association pairs women undergraduates with faculty members for summer research opportunities and the Women in Science and Engineering (WISE) program schedules lunches and lectures on a variety of topics. The mathematics, biology, chemistry, and physics departments have help rooms and help sessions for students needing extra attention. The Academic Skills Center offers free peer tutoring in science and mathematics as well as workshops and one-on-one conferences for time management, study skills, and test preparation.

Duke provides various research and study options through the Summer Research Opportunity Program, a program which funds four minority students to work in the Duke University Medical Center Microbiology Laboratories. Other minority student opportunities include: the Ford Foundation Diversity Grant, which gives mini-grants to students for diversity projects; the Philip Morris Common Ground Grant which offers mini-grants to students, faculty, and staff to bridge gaps between communities; and the Minority International Research Training for Biological Sciences for 10 to 14 weeks in South America, Eastern Europe, and Africa. Duke University offers a wide range of graduate school and career opportunities. Fellowships are offered for graduate study that will lead to teaching certificates through the Fellowships for Minority Students Entering the Teaching Profession.

The National Society of Black Engineers campus organization publishes a resumé book for potential employers and sponsors meetings for employer presentations to students. The Pre-graduate Study and Undergraduate Research Advising Office provides information on summer research opportunities and graduate schools. The Career Development Center provides information on standardized tests, graduate schools, employment and summer internships, and resumé and cover-letter writing. The Cancer Center's "Summer on the Edge" places minority high school students in paid positions in medical laboratories.

The Spectrum House is a dormitory for students interested in minority cultures and provides educational and multicultural programs for its residents. Duke's Community Service Center offers 19 different community service programs in mathematics and science. The National Society of Black Engineers, for example, provides tutors for students in local high schools.

**Elizabeth City State University**  
**Dr. Helen M. Caldwell, Vice Chancellor for Academic Affairs**  
 1704 Weeksville Road  
 Elizabeth City, NC 27909  
 Enrollment: 2,099  
 Highest Offering: Baccalaureate

tel: 919/335-3230  
 fax: 919/335-3731  
 homepage: <http://www.ecsu.edu>

### About the Institution

Elizabeth City State University, established in 1891, is located in the northeastern region of North Carolina. The University offers degrees at the baccalaureate level in the basic art and sciences and in selected professional and pre-professional areas. The University also provides pre-college programs through the Mathematics and Computer Science Department. The Department offers two major programs through the Saturday Academy (September-May) and the Summer Scholars Program (July-August), both of which target students in grades 6 through 12. In the recruitment effort personal letters of invitation are sent to all interested students. The University also maintains articulation agreements with local community colleges.

### Support Services and College Environment

The Science and the Mathematics and Computer Science Departments offer financial aid to students through research assistantships and internships. Supported by external funding, as well as scholarships, the Science Department provides opportunities for undergraduate research on and off campus during the academic year and summer. Mathematics and computer science students are involved in undergraduate research, teaching, and tutoring. Both departments have informal study groups, and tutoring is offered through the respective departments and through Student Services. The Science Department and the Mathematics and Computer Science Department provide a database of summer research and internship opportunities for students.

Students participate in on-campus biological science organizations and present research results at regional and national science meetings. The Mathematics and Computer Science Department faculty members support students through counseling and academic advisement. The Mathematics and Computer Science Club also provides extracurricular activities for students. The Science Department offers mini-workshops for local 4-H clubs in conjunction with the local Agriculture Extension Agency in an effort to reach out to the community.

**North Carolina A&T State University**  
**Dr. Harold L. Martin, Vice Chancellor for Academic Affairs**  
**1601 East Market Street**  
**Greensboro, NC 27411**  
**Enrollment: 8,050**  
**Highest Offering: Doctorate**

tel: 910/334-7500  
fax: 910/334-7136  
homepage: <http://www.ncat.edu>

### **About the Institution**

North Carolina A&T State University is a land-grant institution that was established in 1891. The University offers bachelor's, master's and doctoral degrees through the Schools of Agriculture, Business and Economics, Education, Nursing, and Technology; the Graduate School; and the Colleges of Engineering and Arts and Sciences.

The University is a national leader in research and development programs and ranks third in the state in the production of sponsored research. North Carolina A&T generates grants and contracts with major companies, foundations, and federal agencies to enhance its academic programs and provide student scholarships.

### **Support Services and College Environment**

The University provides student counseling, testing, and guidance through its Counseling Services Program. The Office of Career Services offers career assistance to alumni and provides a wide range of programs, services, and resources to assist students in early career exploration.

The faculty is nurturing, supportive, dedicated, and accessible to students. Each department offers tutorial sessions for students in need of assistance. The University promotes scholarship through a special Honors Program and has

other programs to help prepare students for advanced study or research. To help students make the transition into the workplace or graduate school, the University provides internships, practicums, seminars, and access to computer and biotechnology laboratories.

**North Carolina Central University**  
**Dr. Phillip J. Stiles, Provost/Vice Chancellor**  
**Durham, NC 27707**  
**Enrollment: 5,470**  
**Highest Offering: First Professional**

**tel: 919/515-2011**  
**fax: 919/515-2556**  
**homepage: N/A**

### **About the Institution**

North Carolina Central University (NCCU) was founded in 1909. In 1925, NCCU became the first state supported liberal arts college for Blacks in North Carolina. The University has an enrollment of nearly 5,500 undergraduate and graduate students. NCCU and the North Carolina Technical College System have an articulation agreement to facilitate student recruitment and transfer of credits.

### **Support Services and College Environment**

Scholarships are available to students on a competitive basis. Special scholarships are available for mathematics, science, and engineering (MSE) majors. NCCU has a well-established program called the University Undergraduate Research Program that places MSE students with faculty members engaged in research. In addition, MSE students are hired to work as tutors in the Math Learning Center. MSE faculty members also serve as mentors and advisors to students. MSE students learn about job openings and information via bulletin boards, announcements in classes, and special programs offered by MSE departments. The Summer Ventures and Bridge Programs are two pre-college programs supported by NCCU. These summer programs target high school students who are interested in a MSE career.

The MSE departments have student clubs that organize problem seminars. At an annual event, student presenters give solutions to challenging problems, host seminars, and give presentations on their work. Senior MSE students conduct large scale research projects and often work as a team to complete a project. NCCU is trying to organize

student chapters of the Mathematical Association of America (MAA), the Association for Computing Machinery (ACM), and the American Statistical Association (ASA) to further assist the MSE majors in academic excellence.

**North Carolina State University**  
**Mr. Jeff Compher, Assistant to the Chancellor**  
**Raleigh, NC 27695**  
**Enrollment: 27,577**  
**Highest Offering: Doctorate**

**tel: 919/515-2011**  
**fax: 919/515-2556**  
**homepage: <http://www.ncsu.edu>**

### **About the Institution**

North Carolina State University, founded in 1887, is in its second century of service as a national center for research, teaching, and extension in science, technology, humanities, and a wide range of professional programs. The University offers degrees at the baccalaureate, master's, intermediate, first professional, and doctoral levels in 125 fields of study. The Director of Student Services recruits students through outreach visits, mailings, and on-campus visits. The College of Education and Psychology sponsors the Mathematics and Science Education Network (MSEN) pre-college program as a strategy to attract minorities to mathematics and science. The program provides academic enrichment classes, Saturday, and summer programs for students; and workshops and seminars for parents and teachers.

### **Support Services and College Environment**

The University offers scholarships and financial support to students in all teaching fields through the College of Education and Psychology. The University also provides students with mentors by assigning them a faculty member and utilizing the students in the Teaching Fellows program. Teaching Fellows offer tutoring in the public schools, area communities, and the University. Mathematics and science tutoring is offered by the College of Physical and Mathematical Sciences.

The University offers extracurricular activities for students to engage their imaginations and intelligence through TECA (Technical Education Clubs of America) and other mathematical and science education organizations.

The Director of Student Services counsels students on summer, career, and graduate school opportunities. In order to reach out to the community, the University sends mailings to local churches and schools encouraging prospective students to visit the campus.

### **Pembroke State University**

**Dr. Charles R. Jenkins, Provost and Vice Chancellor for Academic Affairs**

**One University Drive**

**Pembroke, NC 28372**

**Enrollment: 3,017**

**Highest Offering: Master's**

**tel: 910/521-6000**

**fax: 910/521-3877**

**homepage: <http://www.pembroke.edu>**

### **About the Institution**

Pembroke State University was established in 1887 as a school for Native Americans. Located in the southeastern region of North Carolina, Pembroke is about 30 miles south of Fayetteville and has a student to teacher ratio of 15:1. The first diploma was awarded by the institution in 1905. The school gained university status in 1969 and has built a reputation throughout the eastern United States as a school offering a top quality education. Pembroke State is a comprehensive university offering degree programs at the baccalaureate level as well as a Master of Arts in Education. These degree programs cover eight different certification areas. Both formal and informal articulation agreements exist between Pembroke and community colleges that enroll a large number of minority students.

The University has several on-campus, pre-college programs, especially in mathematics and science. They include TRIO programs and others that target 11th and 12th grade students. The University actively seeks to recruit and enroll a greater number of African American and American Indian students.

### **Support Services and College Environment**

The state of North Carolina provides Pembroke with Minority Presence Scholarships for African Americans and Incentive Scholarships for Native Americans.

Students majoring in mathematics, science, and engineering (MSE) fields receive advice from the science departments on an individual basis. Each department has extracurricular activities for students, and departmental study groups are organized both formally and informally. Tutorial sessions for students needing extra help in mathematics or science are offered by the departments and by Student Services. Research and tutoring opportunities, such as TRIO or Special Services programs within each academic department are in place. There are several MSE-oriented student organizations on campus.

Pembroke also has a formal mechanism for providing information and counseling students on summer, career and graduate school opportunities, including agreements with other institutions and business and industry for summer work.

The University plans to expand its services and programs to attract, retain and graduate more minority students in MSE fields.

#### **University of North Carolina at Chapel Hill**

**Dr. Richard J. Richardson, Interim Provost and Vice Chancellor for Academic Affairs**

**Chapel Hill, NC 27599**

**Enrollment: 24,463**

**Highest Offering: Doctorate**

**tel: 919/962-2211**

**fax: 919/962-5604**

**homepage: <http://www.unc.edu>**

#### **About the Institution**

The University of North Carolina (UNC) at Chapel Hill was established in 1793 and is the only public university in the nation to have awarded degrees in the 18th Century. The University has been recognized for the quality of its graduate programs in every national survey conducted in the past third of this century. *U.S. News and World Report's Survey of American Colleges and Universities* consistently ranks the University among the best colleges in the nation and among the top research universities. The University offers 95 baccalaureate, 175 master's, and 109 doctoral programs as well as professional degrees in dentistry, medicine, pharmacy, law, and library science.

UNC-Chapel Hill participates in one large pre-college program called the Summer Bridge Program. This program enrolls African American and Native American students whose academic profiles suggest they might experience

difficulty with their transition from high school to the University. Students are targeted from rural and urban high schools whose graduates experienced some academic difficulty. Summer Bridge provides students an opportunity to enhance their learning skills, experience the university environment first hand, and increase the likelihood of obtaining the equivalent academic success they enjoyed during high school.

Students majoring in any field of study are accepted into the Summer Bridge Program. Students who do not participate in this program may have access to any of the programs in which they qualify. All services and programs offered attempt to be responsive to students' individual needs so that students can gain the confidence essential for academic success. Other programs offered by the University include Upward Bound, Project Uplift, and the National Achievement Recruitment Program.

### **Support Services and College Environment**

The University offers a comprehensive program of financial aid which includes grants, loans, and work study to assist students in need. Also it has established competitive scholarships to attract the most talented students to the University. The Joseph E. Pogue Scholarships are awarded on the basis of outstanding accomplishment in high school, the potential for success at the university level, and leadership qualities. Twenty-two scholars are selected each year and receive stipends to cover tuition, fees, room, and board. The University offers non-financial assistance as well as special services and tutorials.

The Learning Center offers Supplemental Instruction (SI) in several large lecture courses in the sciences, social sciences, and humanities. SI identifies high-risk courses instead of high-risk students. It is voluntary and accessible to all students in selected courses. The Learning Center offers approximately 10 courses with SI each semester. The Chemistry Tutorial Program supplements in-class instruction for students experiencing problems in first-year general chemistry courses. The Math Tutorial Program is designed to strengthen the fundamental mathematical skills for students experiencing difficulty in freshman level mathematics. The Peer Tutoring Program is a student initiative that provides help in a broad array of introductory courses that may differ slightly from semester to semester. Tutors teach and model good study skills and strategies and provide assistance with course content.

## FEATURES\* OF SUPPORT SERVICES AND COLLEGE ENVIRONMENT

(Institutions are listed in rank order according to the number of MPSE Degrees Awarded to Minority Students in 1992-93)

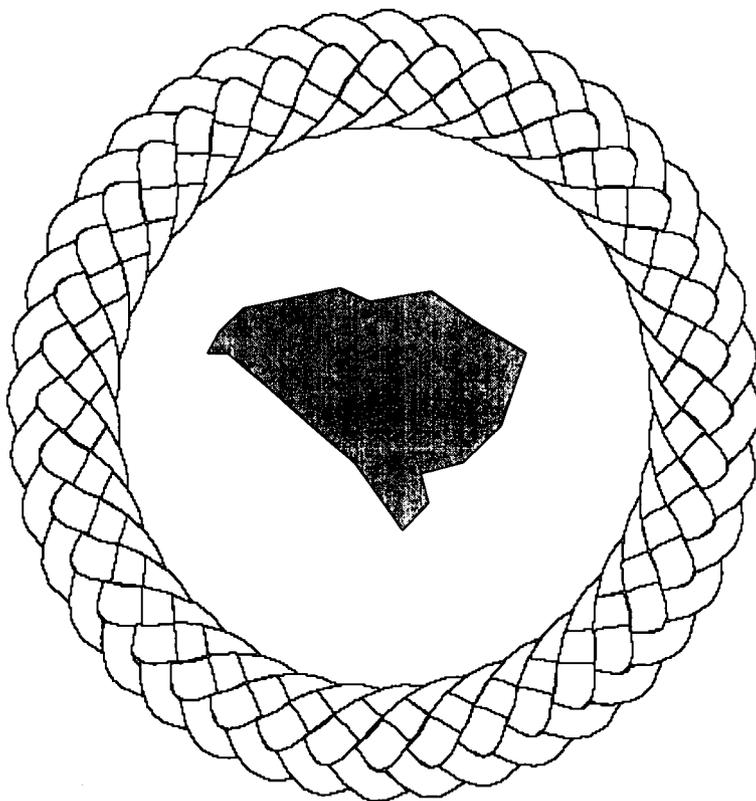
### NORTH CAROLINA

INSTITUTION	COMMUNITY OUT-REACH	SPECIAL RECRUITMENT	SPECIAL SCHOLARSHIPS	SPECIAL OFFICE	SPECIAL COUNSELORS	ACCESSIBLE FACULTY	SUMMER BRIDGE	SPECIAL TUTORING	STUDY GROUPS	MSE STUDENT ORGANIZATIONS	ONE ON ONE ADVISING	PEER TUTORS	OTHER
North Carolina A& T State University			√			√		√					
North Carolina State University at Raleigh	√	√	√				√	√		√	√		
North Carolina Central University	√		√		√		√	√	√			√	Undergraduate Research
Duke University	√	√	√					√		√		√	Undergraduate Research
Elizabeth City State College	√	√			√	√		√	√	√			
University of North Carolina, Chapel Hill	√	√					√	√				√	
Pembroke State University	√	√	√		√		√	√	√	√		√	
Saint Augustine's College**													
Johnson C. Smith University**													
Bennett College**													

\* - Based upon information provided in institutional responses to QEM survey

\*\* - Did not return survey

# South Carolina



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# SOUTH CAROLINA

**"TOP TEN" INSTITUTIONS IN NON-ASIAN MINORITY MSE BACCALAUREATE DEGREES AWARDED, 1992-93**  
 (Ranked by number of degrees awarded in Mathematics, the Physical Sciences, and Engineering)

Institution	Mathematics, Physical Sciences, and Engineering	Life Sciences	Social Sciences	Total MSE Baccalaureate Degrees Awarded
South Carolina State University	55	21	25	101
Clemson University	39	10	15	64
University of South Carolina at Columbia	34	24	56	114
Morris College	9	6	41	56
Benedict College	8	11	13	32
College of Charleston	8	3	19	30
Clafflin College	5	8	59	72
The Citadel Military College of South Carolina	4	0	6	10
Columbia College	4	1	1	6
Charleston Southern University	3	4	9	16

Source: Unpublished data from the National Center for Education Statistics, U.S. Department of Education

Notes: (1) Some states may not have 10 institutions listed because (a) there were fewer than 10 institutions in the state or (b) fewer than 10 institutions awarded degrees in mathematics, the physical sciences, and engineering to non-Asian minorities in 1992-93.

(2) If institutions are ranked by the total number of MSE degrees awarded, the "top ten" list of institutions may vary.

## SOUTH CAROLINA

### Introduction

South Carolina, with a 1990 population of approximately 3.5 million, ranks 24th in the nation in population, is home to approximately 1.9 percent of non-Asian minorities in the nation, and enrolls 1.4 percent of non-Asian minority college students in the country.\* Minorities represent 31 percent of the state's total population as shown in Table SC-I. African Americans are the largest minority group, representing 30 percent of the state's population.

**Table SC-I**  
**South Carolina Population by Race/Ethnicity**  
 (in thousands)

1990	Total	African Americans	American Indians	Asians	Hispanics	Whites	Non-Asian Minority Population
South Carolina Total Population	3,487	1,040	8	22	31	2,386	1,079
% of South Carolina Population	100.0	29.8	0.2	0.6	0.9	68.4	30.9

Source: 1990 U.S. Census Data

\* Quality Education for Minorities (QEM) Network, Washington, DC, 1996. "Statistical Profile of South Carolina."

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## MSE Degrees in South Carolina

In 1992-1993, MSE baccalaureate degrees earned by non-Asian minorities totaled 649, which is 92.7 percent of the 700 degrees projected as South Carolina's "fair share" of the NSF's goal.<sup>2</sup> Only four non-Asian minorities received the Ph.D. degree in MSE fields in South Carolina during the 1992-1993 academic year, which is only one-seventh of the 28 projected as South Carolina's "fair share" of the NSF goal.

**Table SC-II**  
**MSE Degrees Awarded in South Carolina**  
**by Race/Ethnicity, 1992-1993**

	Bachelor's	Master's	Doctorate
African Americans	623	11	2
American Indians	5	2	0
Asians	81	13	1
Hispanics	21	9	2
Whites	3131	386	100
Total	3861	421	105
Total Non-Asian Minorities	649	22	4
% of Degrees Awarded to Non-Asian Minorities	16.8	5.2	3.8

Source: Unpublished data from U.S. Department of Education,  
 National Center for Education Statistics.

## South Carolina Institutional Responses

The following eight out of 10 higher education institutions in South Carolina that received surveys from QEM responded: Benedict College, The Citadel—the Military College of South Carolina, Claflin College, Clemson University, College of Charleston, Columbia College of South Carolina, Morris College, and University of South Carolina, Columbia. Summary information on these universities and their survey responses follow.

### **Benedict College**

**Dr. Larry F. Cline, Vice President for Education/Student Affairs**

**506 North Guignard Drive**

**Columbia, SC 29150**

**Enrollment: 1,862**

**Highest Offering: Baccalaureate**

**tel: 803/778-1961**

**fax: 803/773-4859**

**homepage: <http://www.subelt.net/~icusc/benedict/bchome.htm>**

### **About the Institution**

Benedict College, founded in 1870, is an independent, private institution located in Columbia, South Carolina. The College presently enrolls students from more than 20 states and nine foreign countries. Benedict's current open admissions policy is designed both for students who are high achievers and for those who minimally qualify for the high school diploma or General Equivalency Diploma (GED).

The College offers bachelor's degree programs in 21 major areas of study. Benedict strives to provide an environment in which students can flourish and develop academically, socially, emotionally, and spiritually. The College provides reinforcing intellectual and recreational experiences for students as well as residents of the local community.

### **Support Services and College Environment**

Benedict offers the Upward Bound Program for pre-college students. This Program identifies low-income, first generation college students with academic potential and provides them with support services to ensure that they

complete high school and pursue post-secondary education. The Program includes a curriculum designed to develop competencies in basic academic areas, creative thinking, effective expression, and the positive attitudes toward learning that are needed for success in post-secondary education. Other program offerings include survival skills seminars; comprehensive academic, career, and personal counseling services; and recreational and cultural enrichment activities that enhance the student's probability for success in college.

**The Citadel, the Military College of South Carolina**  
**Mr. Donald B. Campbell, Vice President for Instructional Services**  
**PO Drawer 696**  
**Charleston, SC 29802**  
**Enrollment: 4,316**  
**Highest Offering: Master's**

**tel: 803/593-9231**  
**fax: 803/593-6641**  
**homepage: <http://www.citadel.edu>**

### **About the Institution**

The Citadel, the Military College of South Carolina, was established in 1842 as an all-male institution. It became co-educational in 1994.

### **Support Services and College Environment**

The Citadel awards more than \$1.5 million in academic scholarships. More than 25 full academic scholarships are awarded to freshmen. Class and ROTC scholarships are offered, and special scholarships are available for South Carolina and North Carolina residents.

The Citadel offers a writing center that provides free academic support services to students, faculty, and the community. Professional tutors, along with graduate and undergraduate tutors, assist students who need help. Group conferences on writing and reading are scheduled each semester. A student branch of the Institute of Electrical and Electronics Engineers also helps provide needed support services.

**Clafin College**  
**Dr. John P. Idoux, Provost**  
**P.O. Box 1954**  
**Orangeburg, SC 29526**  
**Enrollment: 1,001**  
**Highest Offering: Baccalaureate**

**tel: 803/347-3161**  
**fax: 803/349-2990**  
**homepage: None Available**

### **About the Institution**

Clafin College is a private, co-educational institution that was established in 1869. Clafin is a United Methodist Church-related, four-year institution whose mission is to provide a liberal arts and professional education that produces graduates who understand themselves, their community, and the world.

The College offers a choice of 24 majors leading to the bachelor's degree. It offers a wide range of academic majors that prepare students for leadership positions in fields such as teaching, the ministry, the service professions, government, business, scientific research, mass communications, and the arts.

### **Support Services and College Environment**

Financial aid is available for eligible students. In addition, presidential and honors scholarships are available as well as tuition grants for South Carolina residents. Clafin has established a Center for Excellence in Science and Mathematics for the purpose of recruiting, retaining, and graduating students who plan to pursue careers in science, engineering, mathematics, and technology fields.

A Cooperative Education Program at the College allows students who have completed 45 semester hours to alternate a semester of paid employment at a company or agency related to their major field with a similar period of study at the College until their senior year. Thus, student are able to integrate classroom work with practical, on-the-job experience while studying for the undergraduate degree.

The administration, faculty, and staff foster the ideal that academic achievement is facilitated by a well-balanced, well-rounded program of student activities and campus life. The College teaches religious and human values, and during the spring semester, offers a week of religious emphasis.

**Clemson University**  
**Dr. Vermelle Johnson, Vice President for Academic Affairs**  
**700 College Avenue NE**  
**Clemson, SC 29115**  
**Enrollment: 16,318**  
**Highest Offering: Doctorate**

**tel: 803/535-5097**  
**fax: 803/531-2860**  
**homepage: <http://www.clemson.edu>**

### **About the Institution**

Clemson University is situated on the shores of Lake Hartwell and is surrounded by 17,000 acres of farms and woodlands. The University was founded under the Morrill Land Grant Act of 1862 by Thomas Green Clemson. Upon his death in 1888, Clemson left a will that provided for the establishment of a "seminary of learning." In 1889, the School opened as an all-male military school and was originally called the Clemson Agricultural College. It was renamed Clemson College in July 1893. In 1955, the institution was changed to "civilian" status and also became co-educational at that time. Clemson College attained university status in 1964 and was re-named Clemson University.

### **Support Services and College Environment**

Scholarships are available to qualified students, and some are targeted at minority mathematics, science and engineering (MSE) students. The University offers bachelor's, master's, and doctoral degrees and is comprised of the following colleges: Agriculture, Forestry and Life Science; Architecture, Arts and Humanities; Business and Public Affairs; Health, Education and Human Development; and Engineering and Sciences. Clemson University also houses the National Dropout Prevention Center whose mission is to reduce America's dropout rate and to meet the needs of youth in "at-risk" situations.

Numerous academic clubs are available to students, including the Society of Women Engineers and the National Society of Black Engineers. The University also offers academic support programs such as the Program for Engineering Enrichment and Retention (PEER), the Black Educational Support Team (BEST), and Tools for Enrichment and Advancement in Mathematics and Science (TEAMS). From 1977 to 1995, Clemson hosted a five-week summer career workshop for minority high school juniors and seniors.

Clemson is dedicated to teaching, research, public service, and improving the quality of life through education.

### **College of Charleston**

**Dr. Linda B. Salane, Vice President for Academic Affairs/Dean College**

**1301 Columbia College Drive**

**Charleston, SC 29203**

**Enrollment: 10,613**

**Highest Offering: Master's**

**tel: 803/786-3012**

**fax: 803/786-3771**

**homepage: <http://www.cofc.edu>**

### **About the Institution**

The College of Charleston was established in 1770 and was chartered in 1785 as a liberal arts college. It is the oldest institution of higher learning in South Carolina and the 13th oldest in the nation. The College of Charleston serves a diverse student body; offers baccalaureate, master's and doctoral degrees; and provides for creative expression in an atmosphere of intellectual freedom.

### **Support Services and College Environment**

The College actively recruits students with a demonstrated interest in science, mathematics, engineering, and technical (SMET) fields. The South Carolina Alliance for Minority Participation (SCAMP) students visit local high schools to talk about their majors and opportunities available for minorities at the College. The SCAMP program also offers scholarships to minority SMET majors.

Pre-college students participate in the Upward Bound Program which offers a two- to three-week residential program for minority high school students to familiarize them with college life. The financial aid office awards support through a general scholarship fund for minority students. The College also offers merit based-scholarships.

The Supplemental Instruction Program offers peer-facilitated study groups for students enrolled in difficult introductory mathematics and science courses and is used in conjunction with the Science, Engineering, and Mathematics Summer Bridge Program. This program is offered to incoming minority freshmen (about 70 students per year) and fully covers their room, board, and tuition for a summer semester. During the Summer Bridge program, students take pre-calculus to get exposure to a college course and college life. Additionally, SCAMP students participate in directed research and internship programs. Those who are given a scholarship for academic excellence are required to assist in the recruitment of minority high school students and /or act as mentors or tutors in their chosen discipline.

A supportive environment allows College of Charleston students, faculty, and the local community to interact. For example, a collaboration with business and industry keeps SCAMP students abreast of opportunities available to them in their fields. Since the student faculty ratio is 19:1, most departments have an "open door" policy that encourages SMET and other majors to visit and talk with the faculty. College of Charleston offers numerous opportunities for intellectual and personal growth.

### **Columbia College of South Carolina**

**Dr. Linda B. Salane, Vice President for Academic Affairs and Dean of the College**

**1301 Columbia College Drive**

**Columbia, South Carolina 29203**

**Highest Offering: Master's**

**Enrollment: 1,067**

**tel: 803/786-3012**

**fax: 803/786-3771**

**homepage: N/A**

## About the Institution

Columbia College is a small private college with a strong commitment to the education of women. Recognized for the second consecutive year by *U.S. News & World Report* as one of the Top Five Liberal Arts Colleges in the South, the College fosters an environment of integrity and openness to ideas that encourage students to develop the knowledge, skills, and values that empower them to make significant contributions to their careers, their families, and their communities.

## Support Services and College Environment

The College offers financial aid that includes grants, loans, work study opportunities, and a broad range of more than 200 endowed merit, departmental, and leadership scholarships. Columbia College offers support to students and potential students from the start of their higher education academic career. Columbia's student-faculty ratio of 14:1 allows for strong mentoring opportunities between professors and individual students. In addition, the College offers individual and group counseling to assist students in defining and accomplishing their personal and academic goals.

New students attend a three-day orientation program during the month of June prior to their fall enrollment to help prepare them for life on the campus. Additionally, the Office of Career Planning and Placement assists students in exploring career possibilities, identifying career options, and conducting effective job searches throughout their college years. Special job search workshops and two major recruitment days are held for seniors preparing to graduate.

In an effort to extend beyond its academic walls and into the community, Columbia College offers classes in various curricula to qualified female students in local high schools. This permits students to earn college credit and become acclimated to the college environment while in high school.

Columbia College also provides a wide range of student organizations and activities, including workshops that encourage students to develop leadership skills while pursuing their particular academic interests. Student responsibility is exercised in many ways: students plan co-curricular activities, serve as student government leaders, participate in departmental clubs and honor societies, and prepare publications. Students are encouraged to volunteer to participate in on- and off-campus organizations dedicated to community service.

**Morris College**  
**Dr. Jonathan R. Franz, Vice President for Academic Affairs**  
**2100 College**  
**Sumter, SC 29,108**  
**Enrollment: 850**  
**Highest Offering: Baccalaureate**

**tel: 803/276-5010**  
**fax: 803/321-5627**  
**homepage: <http://www.subelt.net/~icusc/morris/mchome.htm>**

### **About the Institution**

Morris College, established in 1908 is a co-educational, liberal arts college that is operated by the Baptist Educational Missionary Convention of South Carolina.

### **Support Services and College Environment**

Baptist ministers are active recruiters for the College. For prospective students who want to attend Morris College, institutionally supported and teacher education scholarships are available as well as presidential scholarships. Faculty members encourage minority students to apply for United Negro College Fund/Mellon Foundation Scholarships.

Programs supported by the Minority Science Improvement Program (MSIP) and the Minority Biomedical Research Support (MBRS) Program target students for research. Although Morris College has no engineering program, a joint program with Clemson University is available through which interested students spend half of their time at Clemson and the other half at Morris.

Owned by 500 Baptist churches, this small liberal arts college offers strong ministerial support and counseling. The Division of Student Advising has a two-phase approach to retaining freshmen. Phase I provides a 24-hour advising period whereby freshmen are taught strategies to succeed in college, including having their work published. Phase II encompasses the remainder of students' time in college. Morris College strives for academic excellence and seeks minority students who will make this goal their own.

**University of South Carolina - Columbia**  
**Dr. Blanche L. Premo-Hopkins, Vice Chancellor for Academic Affairs**  
**171 University Parkway**  
**Columbia, SC 29801**  
**Enrollment: 26,346**  
**Highest Offering: Doctorate**

**tel: 803/648-6851**  
**fax: 803/641-3362**  
**homepage: <http://www.csd.scarolina.edu>**

### **About the Institution**

The University of South Carolina was chartered in 1801 as South Carolina College. It was the first university in the United States to be supported continuously by annual state appropriations. In 1906, the University of South Carolina was re-chartered for the third time. Currently it offers baccalaureate, master's, professional, and doctoral degrees to approximately 16,000 undergraduate and 9,000 graduate students.

The South Carolina Alliance for Minority Participation (SCAMP), funded by the National Science Foundation, was initiated to increase the number of minorities earning advanced degrees in the natural sciences and engineering. The University of South Carolina has articulation agreements with each of the 16 technical colleges in the state. Businesses, industries, and other external groups that support MSE programs at the University include: INROADS, WV, Inc.; INROADS, Charlotte, Inc.; the National Consortium for Graduate Degrees for Minorities (GEM) in Engineering and Science, Inc.; the South Eastern Consortium for Minorities in Engineering (SECME), Inc., and NCR Corporation.

### **Support Services and College Environment**

The University offers a number of support services for SCAMP students to increase their connection to the community and the University. Students are sent to local high schools for informational sessions in 13 South Carolina cities throughout the academic year. The SCAMP program also offers scholarships to incoming freshmen who successfully complete the SCAMP Summer Bridge Program. In addition to financial support from SCAMP, support is available from through: USC/SECME Scholarships (AMOCO) and needs-based awards (DuPont). Other available support includes the Eastman Kodak Minority Academic Scholarship and mentoring programs.

SCAMP students participate as peer mentors or tutors who meet weekly to discuss upcoming tests, extracurricular activities, and courses needed for graduation and graduate school. Workshops are held to provide support for classroom and campus adjustment. Students who need special assistance are referred to the Minority Engineering Program (MEP) Director for Evaluation. The Minority Engineering Program Tutorial Network (MEP T-NET) tutorial/mentoring project assists first- and second-year students in the use of computers for academic readiness. Membership in the National Society of Black Engineers, Inc., American Society of Civil and Mechanical Engineers, and the American Chemical Society afford students an opportunity to discuss fields of interest in their particular disciplines. In addition, alumni support students as mentors or resources for employment opportunities using e-mail and Internet communications.

The University fosters a supportive environment where students can learn and grow. A mentoring program exists where faculty members join students for meals to discuss academic or other issues. In addition, the student/faculty/university bonding process is facilitated through a first-year reading program that brings freshmen and faculty together for social interaction and intellectual stimulation. Students, faculty, and staff are also connected to one another via central computer facilities and networks.

## FEATURES\* OF SUPPORT SERVICES AND COLLEGE ENVIRONMENT

(Institutions are listed in rank order according to the number of MPSE Degrees Awarded to Minority Students in 1992-93)

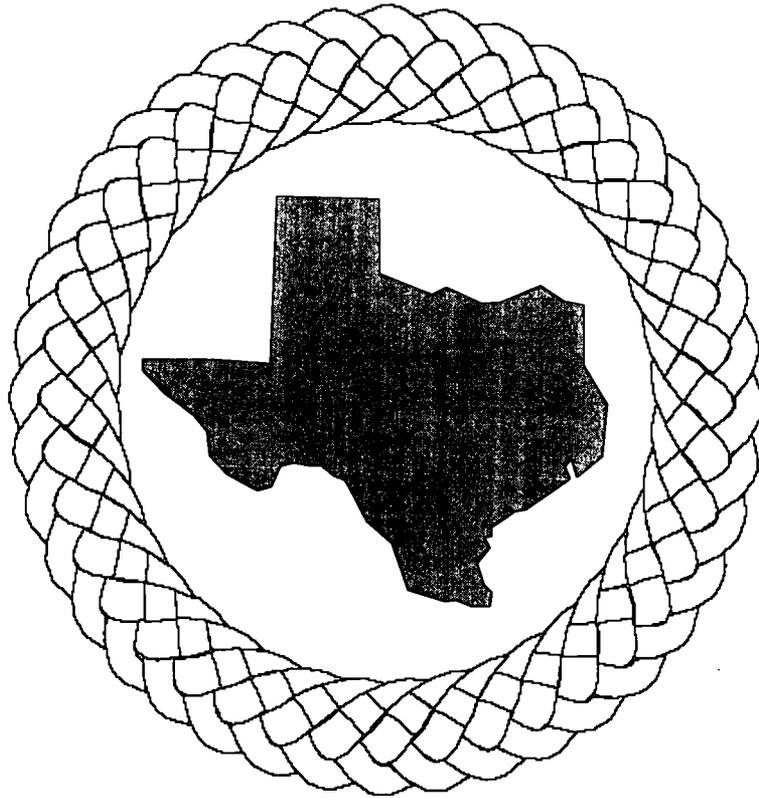
### SOUTH CAROLINA

INSTITUTION	COMMUNITY OUT-REACH	SPECIAL RECRUITMENT	SPECIAL SCHOLARSHIPS	SPECIAL OFFICE	SPECIAL COUNSELORS	ACCESSIBLE FACULTY	SUMMER BRIDGE	SPECIAL TUTORING	STUDY GROUPS	MSE STUDENT ORGANIZATIONS	ONE ON ONE ADVISING	PEER TUTORS	OTHER
South Carolina State University**													
Clemson University	√		√							√			Headquarters - National Dropout Prevention Center
Univ. of South Carolina at Columbia	√	√	√			√	√	√		√			Formal MSE Collaborative
Morris College			√		√								
Benedict College	√	√					√				√		
College of Charleston	√	√	√			√	√		√			√	Formal MSE Collaborative
Clafin College			√										Co-Op Program
The Citadel					√			√		√			
Columbia College	√				√								
Charleston Southern University**													

\* - Based upon information provided in institutional responses to QEM survey

\*\* - Did not return survey

# Texas



# TEXAS

"TOP TEN" INSTITUTIONS IN NON-ASIAN MINORITY MSE BACCALAUREATE DEGREES AWARDED, 1992-93  
(Ranked by number of degrees awarded in Mathematics, the Physical Sciences, and Engineering)

Institution	Mathematics, Physical Sciences, and Engineering	Life Sciences	Social Sciences	Total MSE Baccalaureate Degrees Awarded
Prairie View A&M University	160	47	27	234
Texas A&M University	143	49	110	302
University of Texas at Austin	119	71	107	297
University of Texas at El Paso	94	26	38	158
Texas A&M University, Kingsville	55	4	27	86
University of Texas at San Antonio	46	62	73	181
University of Houston-University Park	39	10	50	99
Texas Southern University	34	3	27	64
University of Texas at Arlington	28	7	37	72
Texas Tech University	24	12	27	63

Source: Unpublished data from the National Center for Education Statistics, U.S. Department of Education

- Notes: (1) Some states may not have 10 institutions listed because (a) there were fewer than 10 institutions in the state or (b) fewer than 10 institutions awarded degrees in mathematics, the physical sciences, and engineering to non-Asian minorities in 1992-93.
- (2) If institutions are ranked by the total number of MSE degrees awarded, the "top ten" list of institutions may vary.

## TEXAS

### Introduction

Texas, with a 1990 population of approximately 17 million, ranks third in the nation in population size, is home to approximately 11.8 percent of non-Asian minorities in the nation, and enrolls 10.6 percent of non-Asian minority college students in the country.\* Among the states chosen for QEM's survey,<sup>1</sup> Texas ranks second in terms of Hispanic enrollment in colleges, and ranks fourth, fifth, and eighth in terms of African American, Asian, and American Indian enrollment, respectively.<sup>2</sup>

**Table TX-I**  
Texas Population by Race/Ethnicity  
(in thousands)

1990	Total	African Americans	American Indians	Asians	Hispanics	Whites	Non-Asian Minority Population
Texas Total Population	16,987	2,022	66	319	4,340	10,240	6,428
% of Texas Population	100.0	12.0	0.4	1.9	25.6	60.3	37.8

Source: 1990 U.S. Census Data

\* Quality Education for Minorities Network, Washington DC, 1996. "Statistical Profile of Texas."

## MSE Degrees in Texas

In 1992-1993, non-Asian minorities earned 2,833 MSE baccalaureate degrees, which is 53.5 percent of the 5,300 degrees projected as Texas' "fair share" of NSF's goal. In 1992-1993, only 29 non-Asian minorities received Ph.D. degrees in MSE fields in Texas, which is only 14 percent of the 212 doctoral degrees projected as Texas' "fair share" of the NSF goal.

**Table TX-II**  
MSE Degrees Awarded in Texas by Race/Ethnicity, 1992-1993

	Bachelor's	Master's	Doctorate
African Americans	928	90	10
American Indians	52	10	2
Asians	1,015	182	82
Hispanics	1,853	138	17
Whites	10,927	1,813	509
Total	14,775	2,233	620
Total Non-Asian Minorities	2,833	238	29
% of Degrees Awarded to Non-Asian Minorities	19.2	10.7	4.7

Source: Unpublished data from the U.S. Department of Education,  
National Center for Education Statistics.

## Texas Institutional Responses

The following six out of 10 higher education institutions in Texas that received surveys responded: Texas A&M University, Texas Southern University, Texas Tech University, University of Houston, University of Texas at Arlington, and University of Texas at Austin. Summary information on these universities and their survey responses follow.

### Texas A&M University-Kingsville

Dr. Flavius C. Killebrew, Provost and Vice President for Academic Affairs

Kingsville, TX 79016

Enrollment: 6,888

Highest Offering: Doctorate

tel: 806/656-2000

fax: 806/656-2126

homepage: <http://www.tamuk.edu>

### About the Institution

The Kingsville campus of Texas A&M University was established in 1925 and, over time, its student body has become increasingly diverse. In Fall 1994, minority students represented about 76 percent of the total enrollment. Of that number, 3,901 were Hispanics, 1,270 were African Americans, and 114 were American Indians.

Most of the colleges in the University do not have special recruitment programs for minority students. However, the College of Engineering considers regional recruitment of Hispanic students a priority and supports outreach programs to high schools with large minority enrollments.

### Support Services and College Environment

The College of Engineering offers scholarships, summer research programs, and other financial support to incoming freshmen on the basis of academic merit. The Department of Biology provides three sources of financial support: an undergraduate scholarship offered to students year-round; the National Institutes of Health (NIH)-funded Minority Biomedical Research Support (MBRS) program; and the NSF-funded Research Improvement in Minority Institutions (RIMI) program. The Department of Mathematics offers campus job opportunities for student examination graders and tutors.

Academic support at Texas A&M-Kingsville takes many forms. Students have access to mathematics and engineering tutoring centers as well as study groups in chemistry, calculus, physics, and engineering. In addition to the study groups and tutoring services, the College of Engineering holds special instruction workshops. An "open door" atmosphere prevails that facilitates contact between the faculty and students. The Career Services Office and the Department of Biology offer special student internship programs.

**Texas Southern University**  
**Dr. Kenneth Jackson, Provost**  
**3100 Cleburn Street**  
**Houston, TX 77004**  
**Enrollment: 9,377**  
**Highest Offering: Doctorate**

tel: 713/313-7011  
fax: 713/313-1092  
homepage: <http://www.tsu.edu>

### **About the Institution**

Texas Southern University (TSU), a pioneer in urban education, was chartered by the Texas Legislature in 1947. In 1973, it was given the designation "special purpose institution of higher education for urban programming." TSU provides rich diversity in its programs, student body, and faculty in an urban setting. The University offers various internships, opportunities for cooperative education, teacher preparation, and research to its approximately 9,300 undergraduate and graduate/professional students. It provides education for leadership training in the sciences, the arts, medical fields, education, business, politics, and many other disciplines. TSU actively recruits high school and community college students, and its General University Academic Skills Center (GUASC) offers on-campus, pre-college programs. Specific articulation agreements have been developed between community colleges in Texas and TSU.

### **Support Services and College Environment**

Scholarships are limited at the undergraduate level; however, some financial aid is available through Pell Grants and Guaranteed Student Loans. The GUASC also offers paid student tutoring opportunities. Scholarships and loans are more readily available at the graduate level, particularly in the Pharmacy and Law Schools.

TSU supports students academically as well as financially. The Student Placement Office provides listings of summer, career, and graduate school opportunities, and selected academic departments coordinate internship programs. Also, GUASC provides information on tutoring, faculty support, and informal departmental study groups.

**Texas Tech University**  
**Dr. Ruth J. Person, Vice President for Academic Affairs**  
**2601 West Avenue N**  
**Lubbock, TX 76909**  
**Enrollment: 24,185**  
**Highest Offering: Doctorate**

**tel: 915/942-2041**  
**fax: 915/942-2038**  
**homepage: <http://www.ttu.edu>**

### **About the Institution**

Texas Tech University, founded in 1923, is a major doctoral research institution offering 150 undergraduate, 100 master's and 50 doctoral degrees. Texas Tech, located in Lubbock, has historically offered excellent educational opportunities combined with the advantages of a major research institution. The University is an attractive and congenial school with innovative programs to assist undergraduate students.

Texas Tech sponsors several pre-college programs, including TEXPREP, a predominantly minority, residential program for students in grades seven through nine; the Junction Program, a bridge program for incoming engineering freshmen; and the Clark Scholars Program, an eight-week residential program for outstanding high school seniors, in which the participants receive a \$1,200 stipend. The University holds articulation agreements with community colleges state-wide.

### **Support Services and College Environment**

Although there are no scholarships earmarked for underrepresented ethnic groups in MSE fields at Texas Tech, minority students have a number of academic support options from which to choose. These include, tutoring services supported by the school of engineering and the best professors to teach introductory calculus sections.

Also, students may take advantage of both formal and informal study groups in introductory courses. MSE advisors and the Career Planning and Placement Office offer information on summer, career, and graduate school opportunities.

**University of Houston**  
**Dr. Edward J. Hayes, Senior Vice President and Provost**  
**Houston, TX 77058**  
**Enrollment: 30,757**  
**Highest Offering: Doctorate**

tel: 713/283-7600  
fax: 713/283-3907  
homepage: <http://www.uh.edu>

### **About the Institution**

The University of Houston (UH) is a major, public, comprehensive research university, providing undergraduate, graduate, and professional education; basic and applied research; and public service programs. Undergraduate education at the University of Houston reflects a model that provides students with a broad liberal arts base, complemented by an in-depth study of a particular profession or discipline. The University's graduate and professional programs offer students the opportunity to achieve mastery in their chosen areas of specialization. The University conducts basic research in each academic department and operates centers and institutes for research of special relevance to local, state, and national priorities. The University also provides a broad spectrum of public service activities designed to meet the business, social, health, legal, governmental, and cultural needs of the city of Houston and the state of Texas. UH has a diverse student body. Its Fall 1995 enrollment of 30,757 students included 56 percent Euro-Americans, 14 percent Asian/Pacific Islanders, 14 percent Hispanics, 9 percent African Americans, and 7 percent international students.

The University of Houston actively recruits in high schools and community colleges with large numbers of minority students. More than 50 percent of entering students at UH are transfer students, the majority of whom come from community colleges.

### **Support Services and College Environment**

The University offers numerous scholarships earmarked for specific underrepresented minority groups. Minority students attend an orientation session and receive special counseling to help in their adjustment and successful

matriculation. Individual departments, student services, and special retention programs provide additional support in mathematics and science. Students may take advantage of informal departmental study groups for mathematics, science, and engineering courses. Tutorials on effective studying strategies also are offered through academic support programs.

Students have access to MSE-oriented student organizations and local chapters of national MSE organizations. The University's minority and community-focused outreach activities include an urban institute and several other outreach programs.

### **University of Texas at Arlington**

**Mr. Mark G. Yudof, Executive Vice President and Provost**

**Arlington, TX 78712**

**Enrollment: 23,280**

**Highest Offering: Doctorate**

**tel: 512/471-3434**

**fax: 512/471-8102**

**homepage: <http://www.uta.edu>**

### **About the Institution**

The University of Texas at Arlington (UTA) is the sixth largest university in Texas, with a Fall 1994 enrollment of approximately 23,000 students. Located in North Texas, between Dallas and Fort Worth, UTA offers 55 baccalaureate degrees, 58 master's degrees, and 19 doctorates. The University has a modern physical plant located on 388 acres in Arlington, a city of 280,000 people. UTA is the second largest institution in the University of Texas System and is primarily a non-residential campus where students are generally older and carry fewer hours than students on many residential campuses. Of the University's 23,000 students, 7.9 percent are African American, 0.5 percent are American Indian, and 6.6 percent are Hispanic.

Predominantly minority inner-city high schools with large minority enrollments and local junior colleges are the focus of UTA's recruitment efforts. UTA has formal articulation agreements with several local junior colleges. At the pre-college level, UTA offers residential programs specific to grade level; for example, the Welch Scholars Program in chemistry and biochemistry for 11th graders and the TEXPREP program in mathematics for 9th and 10th graders. UTA also participates in the Upward Bound Program, which encourages low-income students with the academic potential to become first generation college students, and provides these students with support services to ensure that they complete high school and pursue post-secondary education.

## Support Services and College Environment

Several funding sources are available to UTA students. Scholarships are available through the Outreach Office in Engineering and the Office of Multicultural Affairs. UTA also provides summer research scholarships for college students and year-long scholarships for UTA students close to graduation. The institution has an NSF-funded Research Experiences for Undergraduates (REU) program in engineering that targets minority students. Students may participate in formal and informal departmental student study groups and dormitory study groups. Faculty mentors and study groups also are provided through the Multicultural Affairs Office. Tutorials and other support sessions are offered through the mathematics and science departments and the Office of Student Services. Students may avail themselves of a well-staffed and well-equipped Science Learning Center with self-paced learning programs and computers.

The McNair Scholars and the Alliance for Minority Participation (AMP) programs provide information and advice on summer, career, and graduate school opportunities. UTA plans to continue services and programs to attract, retain, and graduate more minority students, particularly in MSE fields.

### University of Texas at Austin

**Dr. Phillip W. Kendall, Vice President for Academic Affairs**

**80 Fort Brown**

**Austin, TX 78520**

**Enrollment: 47,905**

**Highest Offering: Doctorate**

**tel: 210/544-8200**

**fax: 210/548-0020**

**homepage: <http://www.utexas.edu>**

### About the Institution

The University of Texas (UT) at Austin was established in 1883 and has an enrollment of nearly 48,000 students. The University offers bachelor's, master's, and doctoral degrees in a range of fields. UT Austin has several programs to increase the participation of underrepresented minority students in mathematics, science, engineering, and technology. Between 1993 and 1996, the University conducted Summer Institutes in

Mathematical Modeling for mathematics, science, and engineering students. Each year, 14 talented undergraduates from UT System campuses and Austin Community College are selected to participate in this intensive summer seminar program.

### **Support Services and College Environment**

Undergraduate minorities are paired with faculty mentors so they may participate in laboratory research. Supplemental engineering, mathematics, and science (EMS) classes have been conducted since 1988 to enrich students' academic performance in every freshman and sophomore course. These courses include pre-physics, physics, pre-calculus, calculus, chemistry, and differential equations. The EMS classes use the collaborative learning approach that stresses team work and study groups. Better grades and high retention rates for minority students are proof of the success of the EMS model. UT is now offering an expanded version of the EMS classes for freshman engineering students.

UT also offers the Emerging Scholars Program in Mathematics, a program designed to deepen students' understanding of calculus. Students work individually and in groups on carefully crafted mathematical problems. In addition, UT has an Office of Retention Services that offers support for African American, Mexican American, and Hispanic students. Services include the Preview Program, the Student Success Program, the Gateway Program, and the Mentor Program.

The Office of Freshman Services assists new students with their transition to campus. Activities include orientation programs for freshmen, transfer, and nontraditional adult students; the Welcome Program for African American, Mexican American, and Hispanic students; and the Start Fresh Program.

## FEATURES\* OF SUPPORT SERVICES AND COLLEGE ENVIRONMENT

(Institutions are listed in rank order according to the number of MPSE Degrees Awarded to Minority Students in 1992-93)

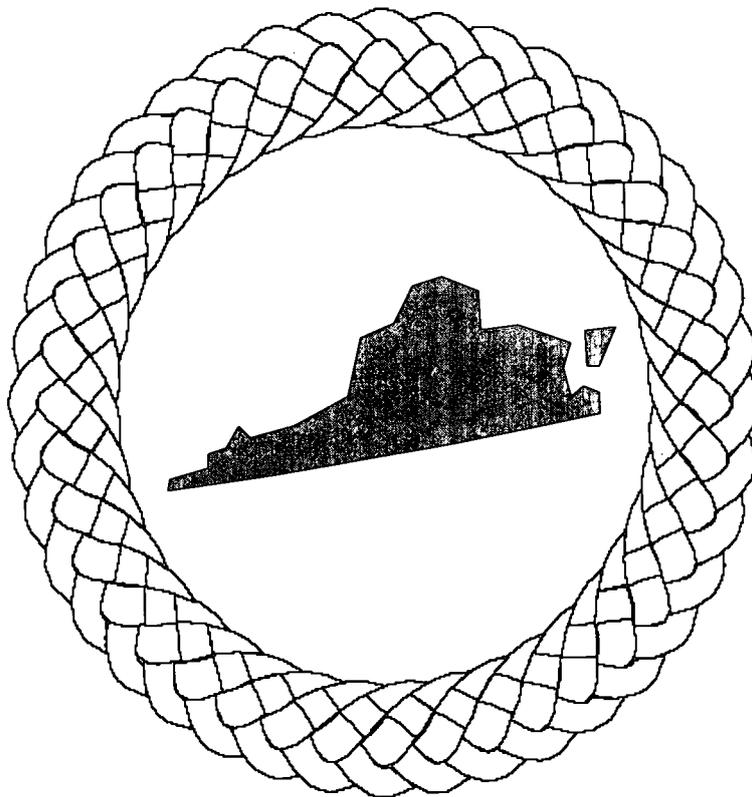
### TEXAS

INSTITUTION	COMMUNITY OUT-REACH	SPECIAL RECRUITMENT	SPECIAL SCHOLARSHIPS	SPECIAL OFFICE	SPECIAL COUNSELORS	ACCESSIBLE FACULTY	SUMMER BRIDGE	SPECIAL TUTORING	STUDY GROUPS	MSE STUDENT ORGANIZATIONS	ONE ON ONE ADVISING	PEER TUTORS	OTHER
Prairie View A&M University**													
Texas A&M University													
University of Texas at Austin				√	√			√	√				
University of Texas at El Paso**													
Texas A&M University, Kingsville**	√	√	√			√		√	√				
University of Texas at San Antonio**													
University of Houston-Univ. Park	√	√	√		√			√	√	√			
Texas Southern University	√	√						√	√				
University of Texas at Arlington	√	√	√	√	√		√	√	√				Formal MSE Collaborative
Texas Tech University	√	√					√	√	√				

\* - Based upon information provided in institutional responses to QEM survey

\*\* - Did not return survey

# Virginia



# VIRGINIA

"TOP TEN" INSTITUTIONS IN NON-ASIAN MINORITY MSE BACCALAUREATE DEGREES AWARDED, 1992-93  
(Ranked by number of degrees awarded in Mathematics, the Physical Sciences, and Engineering)

Institution	Mathematics, Physical Sciences, and Engineering	Life Sciences	Social Sciences	Total MSE Baccalaureate Degrees Awarded
Hampton University	61	64	77	202
Norfolk State University	59	21	84	164
Virginia Tech	38	5	20	63
University of Virginia-Main Campus	33	8	104	145
Old Dominion University	27	8	33	68
Virginia Union University	12	5	25	42
Virginia State University	10	6	94	110
George Mason University	8	9	60	77
College of William and Mary	5	6	40	51
James Madison University	3	5	36	44

Source: Unpublished data from the National Center for Education Statistics, U.S. Department of Education

Notes: (1) Some states may not have 10 institutions listed because (a) there were fewer than 10 institutions in the state or (b) fewer than 10 institutions awarded degrees in mathematics, the physical sciences, and engineering to non-Asian minorities in 1992-93.

(2) If institutions are ranked by the total number of MSE degrees awarded, the "top ten" list of institutions may vary.

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## VIRGINIA

### Introduction

Virginia, with a 1990 population of approximately 6 million, ranks 12th in the nation in size of population. It is home to approximately 2.4 percent of minorities in the nation and enrolls 2.4 percent of minority college students in the country.\* Among the states chosen for QEM's survey,<sup>1</sup> Virginia ranks 10th in terms of African American college enrollment.<sup>2</sup>

**Table VA-I**  
Virginia Population by Race/Ethnicity  
(in thousands)

1990	Total	African Americans	American Indians	Asians	Hispanics	Whites	Non-Asian Minority Population
Virginia Total Population	6,187	1,163	15	159	160	4,690	1,338
% of Virginia Population	100.0	18.8	0.2	2.6	2.6	75.8	21.6

Source: 1990 U.S. Census Data.

\* Quality Education for Minorities (QEM) Network, Washington DC, 1996. "Statistical Profile of Virginia."

## MSE Degrees in Virginia

In 1992-1993, Non-Asian minorities accounted for about 21 percent of the total higher education enrollment in Virginia. However, this group earned only 12.3 percent of the state's MSE degrees. MSE baccalaureate degrees earned by non-Asian minorities totaled 1,166, which is 97 percent of the 1,200 degrees projected as Virginia's "fair share" of NSF's goal. Only 16 non-Asian minorities received the Ph.D. degree in an MSE field in Virginia during the 1992-1993 academic year, which is only 33.3 percent of the 48 doctoral degrees projected as Virginia's "fair share" of the NSF goal.

**Table VA-II**  
MSE Degrees Awarded in Virginia, 1992-1993  
by Race/Ethnicity

	Bachelor's	Master's	Doctorates
African Americans	1,013	64	12
American Indians	17	1	0
Asians	494	54	5
Hispanics	136	20	4
Whites	7,871	1,130	335
Total	9,531	1,269	356
Total Non-Asian Minorities	1,166	85	16
% Awarded to Non-Asian Minorities	12.2	6.7	4.5

Source: Unpublished data from Commonwealth of Virginia, Council of Higher Education.

## Virginia Institutional Responses

Responses to the survey were received from the following eight Virginia institutions: George Mason University, James Madison University, Norfolk State University, Old Dominion University, The University of Virginia, Virginia Polytechnic Institute and State University, Virginia Union University, and The College of William and Mary. Summary information on these universities and their survey responses follow.

**George Mason University**  
**Dr. Frederick Rossini, Provost and Vice President of Academic Affairs**  
 Fairfax, VA 22030  
 Enrollment: 21,774  
 Highest Offering: Doctorate

tel: 703/993-1000  
 fax: 703/993-8707  
 homepage: <http://www.gmu.edu>

### About the Institution

George Mason University was founded in 1957 and became a four-year degree granting institution in 1966. George Mason students are enrolled in 55 undergraduate programs, 44 master's programs, and 11 doctoral programs. An admissions staff person is responsible for recruitment efforts aimed at increasing minority student enrollment, coordinating necessary staff, and tracking recruitment effectiveness.

Programs offered each year for prospective minority students include the Virginia Student Recruitment and Retention Program (VSRRP), which has a strong mathematics and computer focus. The VSRRP targets high school seniors whose admission to the University is contingent upon their success in a six-week, residential summer session. This session allows students to become acclimated to the University setting and is funded by the State Council of Higher Education of Virginia.

George Mason's admissions policy is designed to limit the number of "denied" minority freshman and transfer applicants. The policy is reinforced by an articulation agreement with the Virginia Community College System and most regional community colleges. It is designed to maximize the transferability of course work and allow the Admissions Office to customize a contract for admission to the University if the applicant shows potential but does not meet minimum standards.

## Support Services and College Environment

George Mason University offers several support services with particular emphasis on minority students. The Academic Advising Office identifies several staff members whose primary responsibility is working with minority students. The Minority Student Affairs (MSA) Office maintains this endeavor by identifying departmental advisors who can support the initiative. Additionally, several minority staff members and professors contribute to this effort on an *ad hoc* basis. The MSA Office sponsors an undergraduate program that prepares students for graduate study. The University also provides trained tutors and tutorial needs assessments for minority students.

The MSA Office maintains an e-mail distribution list that contains all minority students sorted by level and sub-sorted by ethnicity. The MSA homepage includes a list of internships, co-ops, and scholarships that specifically target minority students.

Several offices, including MSA, offer one-time scholarships to minority students, ranging from \$500 to \$2,000. The University has created a Minority Advisory Board whose mission is to develop a one million dollar scholarship fund. This Board is composed of CEOs, institutional presidents, and senior-level staff members from minority-owned businesses and major corporations.

The Campus Ministry and Volunteer Center for Minority Students coordinates GMU's community outreach efforts, which will be expanded into local high schools, especially in science and technology. On-campus programming will be designed to highlight the strengths of the engineering, mathematics, and science departments.

**James Madison University**  
**Dr. Linwood H. Rose, Executive Vice President**  
**Harrisonburg, VA 22807**  
**Enrollment: 11,680**  
**Highest Offering: Doctorate**

**tel: 540/568-6211**  
**fax: N/A**  
**homepage: <http://www.jmu.edu>**

### **About the Institution**

James Madison University (JMU) was established in 1908 as the State Normal and Industrial School for Women. It has since grown to become a coeducational comprehensive university with a student body of nearly 12,000 students.

JMU's College of Science and Mathematics (CSM) recently formed a "Recruitment and Retention Committee," charged with developing means to recruit and retain qualified students in science with a particular emphasis on underrepresented students. Additionally, the College of Integrated Science and Technology (CISAT) Coordinator works in the Office of Admissions to help recruit minority students. An articulation program exists between all of the community colleges in Virginia and JMU to assist students in making the transition from a community college to a four-year university.

### **Support Services and College Environment**

JMU provides a number of support services to its students. The CSM offers financial support in the form of three scholarships: Pitt, Dawson, and GTE. The Pitt Scholarship is designated for women in science; Dawson is for science majors in a restricted geographical area; and GTE targets minorities. Each college supports one minority female with the GTE Scholarship. In addition, CISAT receives a contribution from GTE each year for scholarships to minorities and women in Integrated Science and Technology disciplines. These scholarships are primarily used for upperclass students to encourage them to continue in their majors.

Academic support in the form of tutorials and special courses is offered for students who require extra help. Informal student study groups are available to all interested students. A number of academic clubs provide additional support for students, including the Mathematics Club; the Statistics Club; the Pi Mu Epsilon Honor

Society, and a student chapter of the Mathematical Association of America. Most faculty members participate in advising, and all departments offer internship programs for students.

James Madison University plans to continue its efforts to attract, recruit, and retain minority students.

**Norfolk State University**  
**Dr. Jesse C. Lewis, Vice President for Academic Affairs**  
**2401 Corprew Avenue**  
**Norfolk, VA 24142**  
**Enrollment: 8,667**  
**Highest Offering: Master's**

tel: 804/683-8600  
fax: 804/683-9435  
homepage: <http://cyclops.nsu.edu>

### **About the Institution**

Norfolk State University (NSU) was founded in 1935 as a unit of Virginia Union University. In 1942, the College became the Independent Norfolk Polytechnic College and, two years later, an Act of the Virginia Legislature mandated that it become a part of Virginia State College. In 1956, the College separated from Virginia State, attaining university status in 1979. The University is proud to be one of the largest predominantly Black institutions in the nation.

NSU's Dozoretz National Institute for Minorities in Applied Sciences (DNIMAS) actively recruits students with high potential in the sciences and engineering and provides an organized support structure to ensure their success. In addition, NSU has articulation agreements with several community colleges.

### **Support Services and College Environment**

DNIMAS has pre-college programs for rising freshmen. The students are tested and, if necessary, given intensive training in mathematics and reading during the summer prior to their freshman year. In addition, they receive tutorials in study skills, the use of university libraries and computers, and survival strategies. Full academic scholarships, including support for tuition, fees, room and board, and a book allowance are provided to each student accepted into DNIMAS.

DNIMAS students also receive out-of-classroom experiences through a summer internship in their major field. DNIMAS coordinators help students identify internship programs, obtain applications and transcripts, and complete applications. In the junior year, the University begins preparing students for graduate studies by offering seminars on GRE and MCAT test-taking skills and on choosing a graduate school. Choosing several graduate schools and applying to them are a major part of a required senior seminar. Students in DNIMAS also receive academic assistance in the form of tutorials and special support sessions.

DNIMAS assigns each student to a peer mentor and a special advisor, in addition to his/her major advisor. Class sizes are small to ensure that all students receive full attention from faculty members, and informal study groups help to strengthen in-class learning. The mathematics, science, and engineering departments at NSU have on-campus chapters of national honor societies and departmental organizations for student recognition and membership.

**Old Dominion University**  
**Dr. Jo Ann M. Gora, Provost**  
**5215 Hampton Boulevard**  
**Norfolk, VA 23529**  
**Enrollment: 16,490**  
**Highest Offering: Doctorate**

**tel: 804/683-3000**  
**fax: 804/683-4505**  
**homepage: <http://www.odu.edu>**

### **About the Institution**

Old Dominion University (ODU) is a state-assisted institution that was founded in 1930 as a division of the College of William and Mary. It has since become an independent institution offering 68 bachelor's degrees, 61 master's degrees, and 21 doctoral degrees.

Each department is responsible for minority student recruitment. Faculty and staff members visit community colleges on an annual basis to recruit new students and strengthen the transition from a two-year to a four-year institution. ODU offers an on-campus, six-week computer science program targeted at students in grades 7-12.

## Support Services and College Environment

ODU offers a wide array of services to assist students in realizing their academic and professional goals. The University provides scholarships and other financial assistance to minority undergraduates. Individual departments offer undergraduate research, teaching, and tutoring opportunities. Several departments make special efforts to recruit minorities for undergraduate research.

The College of Engineering and Technology offers a variety of scholarships and other forms of financial aid to minority students, including CHROME scholarships; the Edgar and Kathleen Kovner Scholarship for Minority Students; and the NASA Undergraduate Research Scholarship. The Fellowship of Minority Engineers and Scientists (FMES), a student organization allied with the National Society of Black Engineers, also provides undergraduate research and tutoring opportunities to minority students.

The Underrepresented Minorities in Engineering Program (UMEP) provides tutoring, mentoring, and study groups. Students also have the opportunity to teach in a summer program for local students in grades four through nine. Tutorials and other support sessions for students needing extra help in science or mathematics are offered by the Chemistry, Mathematics, and Physics Departments; engineering student professional organizations; the Freshman Division, FMES, and UMEP.

Undergraduates are advised by departmental faculty as soon as they identify major areas or by the College of Sciences if they are interested in science but are unsure of a major field. The University also provides formal, informal, and departmental student study groups to assist students in the learning process. The College of Sciences also has initiated the use of Supplemental Instruction and Learning Communities for freshman students that target courses in biology, chemistry, and mathematics. Although minority students are not singled-out for these efforts, they take advantage of both programs.

Old Dominion University plans to expand its current level of effort with respect to the services and programs designed to attract, retain, and graduate more minority students, particularly in mathematics, science, and engineering fields. The College of Sciences is presently developing a cooperative science program with two regional high schools, Booker T. Washington High School and I.C. Norcom High School, both with minority populations greater than 50 percent.

The College of Engineering and Technology plans to increase UMEP's role in recruiting and retention efforts by instituting both peer mentoring and mentoring by professionals in the field; initiating a local community service activity program; partnering with a new engineering and technology magnet school in Newport News;

developing a student organization for underrepresented minorities in engineering; conducting transfer students' focus groups; and involving the UMEP Assistant Director in other recruiting activities.

**The University of Virginia**  
**Mr. Peter W. Low, Vice President and Provost**  
**Charlottesville, VA 22903**  
**Enrollment: 18,011**  
**Highest Offering: Doctorate**

**tel: 804/924-0311**  
**fax: 804/924-0938**  
**homepage: <http://www.virginia.edu>**

**About the Institution**

The University of Virginia (UVA) embodies the heritage of its founder, Thomas Jefferson. Since its founding in 1819, UVA has hosted hundreds of thousands of students, faculty members, and guests on its grounds in Charlottesville. The University is proud to be the top-ranked public university in the country for the third year in a row, according to the annual *U.S. News & World Report* survey of "America's Best Colleges" (September 9, 1996).

UVA utilizes several strategies to recruit minority students. The Black Student Admission Committee (BSAC) is an integral part of the minority recruitment process. The group consists of approximately 125 freshmen who are responsible for hosting visiting high school students with overnight accommodations in the dormitories; taking prospective students to classes; assisting with all phases of special programs by meeting with visiting minority groups; visiting high schools during winter break; and conducting a tel-a-thon during the months of February and March. The Latino Student Admission Committee (LSAC) conducts similar activities. Also UVA recruits minority students through alumni regional representatives who pair with interested students in Atlanta, GA; Richmond, VA; Washington, DC; Northern Virginia; and the Tidewater Virginia area. In addition, direct mailings, personal contacts, and on-campus recruiting are used to recruit minority students. The Office of Minority Programs (OMP) is also heavily involved in the recruiting process.

VIRGINIA

## Support Services and College Environment

OMP administers corporate and foundation minority scholarship programs. The Director of OMP occasionally uses discretionary funds to support minority students on an emergency basis. OMP also administers scholarships for the Virginia Engineering Foundation. The Office actively researches and supplies information on external scholarships to students.

OMP assures that any engineering student requesting assistance for selected courses receives tutoring. The tutorial staff consists of currently enrolled undergraduate and graduate students who are extremely competent in their field, and are available nightly from Sunday-Friday. All first- and second-year minority students in engineering are monitored in selected core courses. The monitoring process includes evaluations by each professor teaching a first- or second-year course. The results serve as an early warning to students experiencing difficulty.

The Summer Bridge Program is an eight-week residential summer program offered to selected incoming first-year minority students in the School of Engineering. The pre-college students take courses from the first year's curriculum, earning academic credit. Participants live on-campus, eat in the dining halls, and have mandatory tutorial sessions. The program is designed to ease the challenging transition from high school to the engineering curriculum and environment.

The Career Service Office in the School of Engineering and Applied Science provides advice, counseling, and workshops on summer internships and full-time jobs. OMP uses representatives from this office to conduct special sessions for minority students. In addition, OMP has an externship program during university holidays that allows minority students to visit participating companies to observe and interact with engineers in various fields. Students are matched with companies according to their major, interest, and geographical location. The primary goal of this program is to expose students to the corporate environment; many of these experiences, however, lead to summer or permanent employment.

UVA offers a number of pre-college activities, including Minority Introduction to Engineering (MITE), a one-week, residential program designed to familiarize minority juniors and seniors with the various fields of engineering; the GTE Focus Program, that allows UVA to provide Saturday mathematics and chemistry academies to the local minority population; and other programs sponsored through the Office of Minority Programs. OMP works with minority student organizations and the Office of African American Affairs at the University to sponsor community political education efforts.

UVA fosters a positive and supportive college environment through a number of programs and policies. All students in the School of Engineering and Applied Sciences have an academic advisor, and minority students receive additional counseling through the OMP. Students in calculus, chemistry, and physics host informal study groups.

UVA has several organizations that support the special needs and interests of minority students in engineering fields. These groups include the National Society of Black Engineers, the Society of Hispanic Professional Engineers, and the Society of Women Engineers. These groups provide a network for minority and female students to participate in a wide variety of activities, including conferences, seminars, career workshops, and social events. The Graduate Society of Black Engineers is a support organization for graduate minority engineering students.

UVA intends to strengthen its funding base for current recruiting programs and activities.

**Virginia Polytechnic Institute and State University**  
**Dr. Peggy Meszaros, Provost and Vice President for Academic Affairs**  
**Blacksburg, VA 24061**  
**Enrollment: 25,492**  
**Highest Offering: Doctorate**

tel: 540/231-6000  
 fax: 540/231-9263  
 homepage: <http://www.vt.edu>

**About the Institution**

Virginia Polytechnic and State University, founded in 1872 as a land-grant college and popularly known as Virginia Tech, has become the state's largest university offering approximately 200 degree programs. The university offers 70 bachelor's degree programs and 120 master's and doctoral degree programs through the Graduate School and the Virginia-Maryland College of Veterinary Medicine.

The University offers a Black Student Preview that allows African American students to spend a weekend at the institution and obtain a birds-eye view of campus life.

## Support Services and College Environment

Virginia Tech's student support services are extensive. The Virginia Tech Academic Success Program (VTASP) is available to all first- and second-year African American students. It provides mentoring support, academic guidance, and tutoring services. The College of Agriculture encourages undergraduate teaching and research. The Minority Engineering Program invites African American students from Historically Black Colleges and Universities to participate in undergraduate research and teaching activities. The University prepares a newsletter for minority students which includes information and advice on summer, career, and graduate school opportunities. The Aspire Program provides academic assistance to minority students majoring in engineering.

Virginia Tech strives to create an atmosphere that is conducive to academic success and achievement for all students. Minority students benefit from on-campus organizations such as the NAACP, the Black Student Alliance, and the newly established Multicultural Center. Minority students in engineering disciplines benefit from an active chapter of the National Society of Black Engineers. The University plans to increase and strengthen its efforts for recruiting and retaining minority students. Plans to increase minority student enrollment in graduate school programs include hosting monthly seminars on available programs.

### Virginia Union University

Dr. Preston M. Yancy, Vice President for Academic Affairs

1500 North Lombardy Street

Richmond, VA 23220

Enrollment: 1,525

Highest Offering: Doctorate

tel: 804/257-5600

fax: 804/257-5818

homepage: N/A

### About the Institution

Virginia Union University was founded in 1882, following the passing of a bill by the Virginia Legislature to charter the Virginia Normal and Collegiate Institute. The University is located in Richmond, and its most popular majors are business, criminal justice, teacher education, and history/political science. Virginia Union has expanded from its initial 126 students and \$20,000 budget to an enrollment of more than 1,500 students and a biennial budget of \$31 million.

**Support Services and College Environment**

The University offers student financial support in the form of departmental and university endowed scholarships. Students also are encouraged to apply for a number of United Negro College Fund and governmental fellowships. The University provides undergraduate honor students the opportunity to conduct biomedical research through the Minority Access to Research Careers (MARC) program funded by the National Institutes of Health. Biology and Chemistry Club members provide peer tutoring. In addition, honor students often provide tutoring assistance to their peers.

The University hosts receptions during freshman orientation to introduce students to faculty and staff and assign faculty advisors. The low faculty-to-student ratio at Virginia Union makes it possible for students to meet frequently with professors and converse with them on various topics. Students in science and engineering form informal study groups and clubs. In addition, each department at the University has its own student club. Faculty members and students enjoy informal gatherings throughout the year.

**The College of William and Mary**  
**Ms. Gillian T. Cell, Provost**  
**PO Box 8795**  
**Williamsburg, VA 23187**  
**Enrollment: 7,547**  
**Highest Offering: Doctorate**

**tel: 804/221-4000**  
**fax: 804/221-1259**  
**homepage: <http://www.wm.edu>**

**About the Institution**

The College of William and Mary is located in historic Williamsburg, approximately 150 miles south of Washington, DC. The College was chartered in 1693 by King William III and Queen Mary II as the second college in the American colonies. Since severing formal ties to the British Crown in 1776, the College has become noted among the nation's "Public Ivy's" and has a top ranking among state institutions in terms of its commitment to teaching.

The student body at William and Mary includes students from all 50 states and 80 foreign countries. Recruitment efforts aimed at increasing diversity include overnight visitation programs for prospective students by multicultural student groups and phon-a-thons. In addition, the Hulon Willis Society, an African American alumni group, is involved in identifying and recruiting prospective students. William and Mary also participates in the Virginia State Recruitment and Retention Program.

### **Support Services and College Environment**

The College of William and Mary offers an array of support services to ensure academic success. Academic support is offered in the form of academic and summer research opportunities as well as individual departmental senior research projects and writing requirements. Teaching and tutoring activities include undergraduate teaching assistant positions in laboratories, tutoring, and outreach activities at local elementary schools, including the Chemistry Magic show and the Geology Science on Wheels programs.

The Office of Multicultural Affairs works in conjunction with the Career Services Office to identify special opportunities for minority students. The Office of Study Skills and the Office of Multicultural Affairs offer tutorials and support sessions facilitated by upperclass and graduate students. Financial support for students is primarily needs-based, but scholarships aimed at increasing diversity are available also .

The University administers career advising services in the form of departmental advising handbooks, bulletin boards/e-mail distribution lists of jobs and graduate school opportunities, and departmental advising sessions. In addition, the Office of Multicultural Affairs distributes a monthly newsletter and gathers information on internships and post-graduate information in binders that are available for review by students.

William and Mary attempts to prepare all students for academic success. All students are supported by individual advisors at the freshman and sophomore levels, and support from faculty members both in and out of the classroom. Minority students receive additional attention from members of the Black Faculty and Staff Forum. Mathematics and science majors, in addition to pre-medical students, receive special attention from faculty members.

Various student organizations, including departmental science clubs and student cultural organizations, assist students in learning about their fields and providing an opportunity for social interaction with like-minded colleagues. Honor societies and academic clubs in mathematics and science departments recognize outstanding academic achievement. Additionally, members of the Black Faculty and Staff Forum act as mentors to minority students.

The College intends to continue or expand programs like the Traveling Chemistry Magic Show and "Science on Wheels" to help reach local elementary school students as well as to offer college science and mathematics courses for pre-college teachers.

## FEATURES\* OF SUPPORT SERVICES AND COLLEGE ENVIRONMENT

(Institutions are listed in rank order according to the number of MPSE Degrees Awarded to Minority Students in 1992-93)

### VIRGINIA

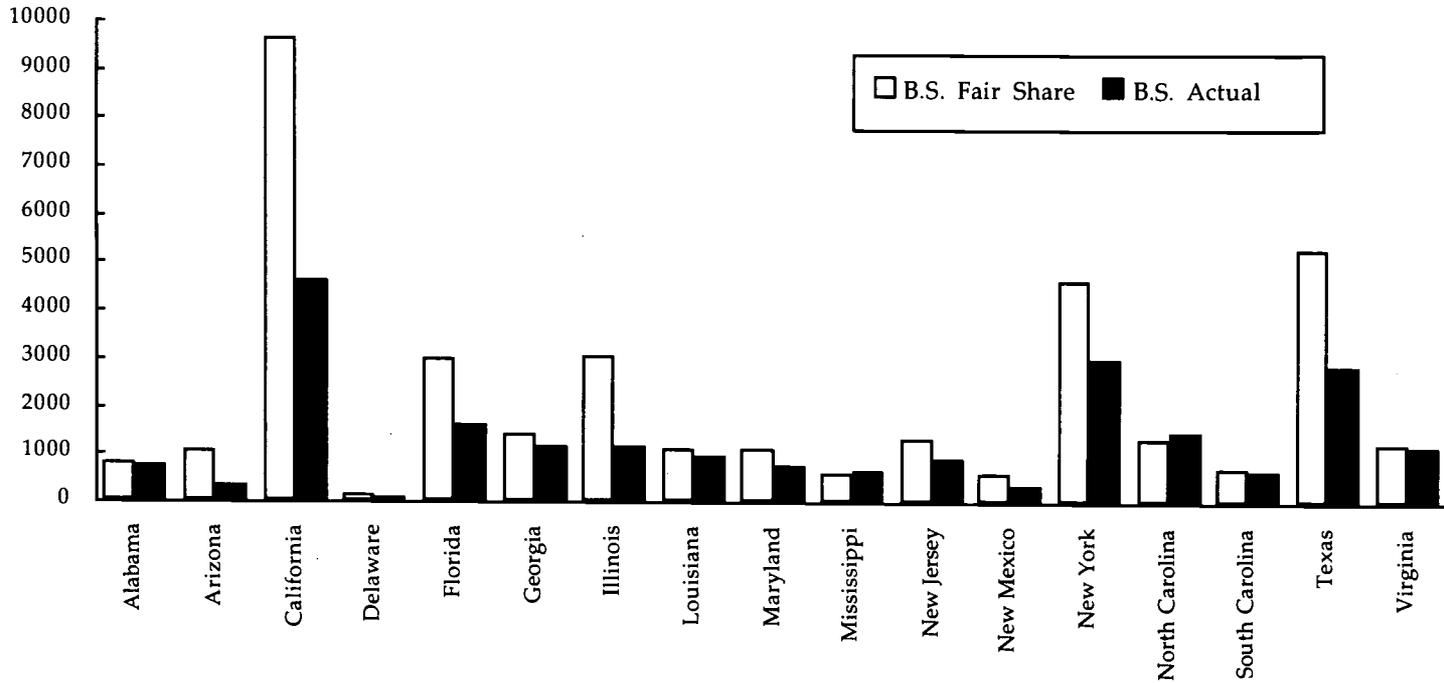
INSTITUTION	COMMUNITY OUT-REACH	SPECIAL RECRUITMENT	SPECIAL SCHOLARSHIPS	SPECIAL OFFICE	SPECIAL COUNSELORS	ACCESSIBLE FACULTY	SUMMER BRIDGE	SPECIAL TUTORING	STUDY GROUPS	MSE STUDENT ORGANIZATIONS	ONE ON ONE ADVISING	PEER TUTORS	OTHER
Hampton University**													
Norfolk State University	√	√	√		√		√	√	√	√	√		Special MSE Institute
Virginia Polytechnic Institute		√		√	√			√		√			Undergraduate Research
University of Virginia-Main Campus	√	√	√	√	√		√	√	√	√	√	√	Undergraduate Research
Old Dominion University	√	√	√					√	√	√	√		Undergraduate Research
Virginia Union University			√			√		√	√	√			
Virginia State University**													
George Mason University	√	√	√	√	√		√	√					
College of William and Mary	√	√	√	√		√		√		√		√	
James Madison University		√	√					√	√	√			

VIRGINIA

\* - Based upon information provided in institutional responses to QEM survey

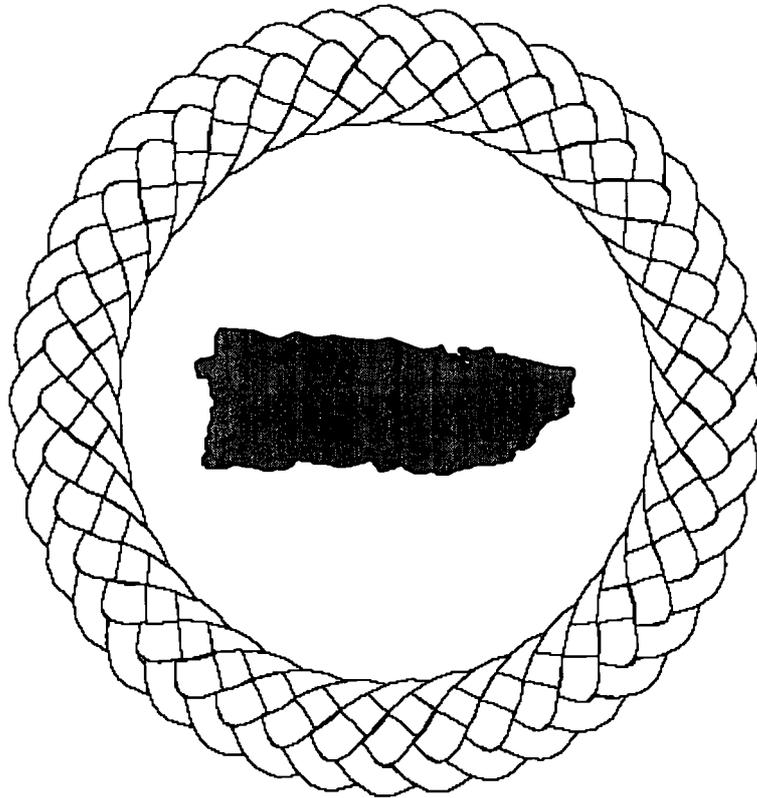
\*\* - Did not return survey

*Proportionate ("Fair") Share and Actual Minority Degree Recipients in Targeted States: 1992-93*



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# Puerto Rico



# Puerto Rico

## TOP TEN INSTITUTIONS IN NON-ASIAN MINORITY MSE DEGREES AWARDED, 1992-93

Institution	MSE Baccalaureate Degrees Awarded (excludes Social Sciences)
University of Puerto Rico-Mayaguez	529
Universidad Politecnica de Puerto Rico	163
Univeristy of Puerto Rico-Rio Piedras Campus	75
Inter American University of Puerto Rico-Metropolitan	70
University of Puerto Rico-Bayamon Tech Univ Col	63
Inter American University of Puerto Rico-San German	42
University of Puerto Rico-Humaco Univ Col	37
Pontifical Catholic University of Puerto Rico-Ponce	18
University of Puerto Rico-Cayey University College	18
University of Puerto Rico-Arecibo Campus	15

Source: Unpublished data from the National Center for Education Statistics  
U.S. Department of Education

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## PUERTO RICO

Ninety-eight percent of Puerto Rico's approximately 3.6 million residents are Hispanic.\* Puerto Rico alone produces nearly one-fifth of all bachelor's degrees awarded to Hispanics in the United States and Puerto Rico. The Island's universities produce almost 15 percent of the master's degrees awarded to Hispanics.

**Table PR-I**  
MSE Degrees Awarded in Puerto Rico, 1991-1992

	Bachelor's	Master's	Doctorate
Mathematics	108	17	
Science	2564	337	9*
Engineering	691	23	0
Total	3363	377	9
% of Total Degrees awarded to Hispanics in the U.S. and Puerto Rico	19.8	14.6	2.2

Source: *Women, Minorities, and Persons with Disabilities in Science and Engineering: 1994*, National Science Foundation, pp. 240, 332, 338, 354.

\* Quality Education for Minorities (QEM) Network, Washington DC, 1996. "Statistical Profile of Puerto Rico."

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## **Puerto Rico Institutional Responses**

Four out of ten higher education institutions on the Island that received surveys from QEM responded: Pontifical Catholic University of Puerto Rico; Universidad Politecnica De Puerto Rico; University of Puerto Rico, Humacao University College; and University of Puerto Rico, Rio Piedras Campus. Summary information on these universities and their survey responses follow.

**Pontifical Catholic University of Puerto Rico**  
**Rev. Ricardo A. Surinach, Vice Chancellor**  
**Ponce, PR 00732**  
**Enrollment: 11805**  
**Highest Offering: Master's**

**tel: 787/841-2000**  
**fax: 787/840-4295**  
**homepage: None Available**

### **About the Institution**

Pontifical Catholic University of Puerto Rico (PCUPR), established in Ponce in 1948, is a Roman Catholic school with an enrollment of almost 12,000 students. Three certified counselors from the High School Relations Office travel to different high schools Island-wide to recruit students. The Recruitment Office coordinates on-site campus visits as well as College Day. Catholic University is a member of the consortium of universities affiliated with the University of Puerto Rico's Resource Center for Science and Engineering. Students and faculty from the University participate in research projects and collaborate with the Resource Center in designing, planning, conducting, and evaluating various activities. The University has established a student exchange program with Seton Hall University in New Jersey and Central Connecticut State University.

### **Support Services and College Environment**

Scholarships top the list of financial support available to students. The Institutional Honors Program and the McNair Program provide money for tuition and monthly stipends. Students also may receive financial aid through Pell Grants, college work study programs, and Perkins or Stafford Loans. Twelve faculty members in the College of Science are conducting research projects in which undergraduate students participate. Research is a requirement for graduation in the Biology Department.

Faculty and department chairpersons encourage students who demonstrate high achievement in science and mathematics courses to join the institutional tutoring program staff. The Institutional Tutoring Center provides tutoring to all students on an individual, voluntary basis.

Two electronic lecture halls are equipped with computers for students taking general chemistry, pre-calculus, calculus, and environmental chemistry. The Guidance and Counseling Center offers a course entitled Preparation for Graduate Studies that is a requirement for students participating in the Institutional Honors Program. In addition, faculty members encourage students to apply for admission to summer programs. The Guidance and Counseling Center provides information to students on summer internships and employment opportunities.

Faculty members are dedicated to working with students inside and outside the classroom. They encourage students to work hard and take an active role in student course selection and student activities. The Freshmen Mentor Program is responsible for the academic progress of freshmen until they declare a major or specialization. The Guidance and Counseling Center assumes responsibility for personal, social, educational, academic, and vocational guidance of students. Individual and group sessions are offered on a regular basis to all freshmen and on a voluntary basis to upperclassmen. An Institutional Academic Advising Program has been developed to monitor students' progress and to assist them in the development of their educational plans. At the College of Science, all Honors Program students must do volunteer work in the community. In an effort to bring the magic of chemistry to elementary schools, teams consisting of a faculty member and two chemistry majors visit local schools and present chemistry demonstrations.

Informal study groups are common in the University, especially during examination time. The College of Science has several active student organizations, including the Premedical Students Association and the Biology, Physics, Mathematics, and Computer Science Clubs. The University plans to increase faculty and student participation in research as well as its student retention efforts.

**Universidad Politecnica De Puerto Rico**  
**Mr. Ernesto Vazquez-Barquet, President**  
**Ponce De Leon Ave No. 405**  
**Hata Rey, PR 00918**  
**Enrollment: 4,561**  
**Highest Offering: Master's**

tel: 787/754-8000  
fax: 787/763-8919  
homepage: <http://www.pupr.edu>

### **About the Institution**

Universidad Politecnica de Puerto Rico was founded in 1974, and is located in the city of Hato Rey. More than 4,500 students are enrolled at the University. In its recruitment effort, the school sponsors open houses for interested students and parents, where information about the University and its programs is distributed and discussed. The University maintains contact with interested students through regular mailings. The University offers campus tours and discussions about campus life and classes, and provides general information about the University to prospective students.

### **Support Services and College Environment**

Puerto Rico has a legislative fund for scholarships through which many students receive financial aid in the form of loans, grants, and work study. An open door policy exists at the University. Faculty have regular office hours and are available at other times by appointment to assist students. Counselors and mentors are assigned to students after their second year. Universidad Politecnica De Puerto Rico has a 24-hour laboratory in which students can write papers or study at any time.

In its effort to graduate productive citizens, numerous academic and social clubs and societies are located on campus. For example, the Puerto Rico Association of Engineers holds monthly meetings. Several professional organizations also are involved in community outreach efforts which allow students to network with people in their field and inquire about employment. The school plans to expand its graduation output by focusing more on recruiting and retention.

**University of Puerto Rico, Humacao University College**  
**Dr. Jose R. Latorre, Dean of Academic Affairs**  
**P.O. Box 5000**  
**Humacao, PR 00681**  
**Enrollment: 4,228**  
**Highest Offering: Baccalaureate**

**tel: 809/832-4040**  
**fax: 809/834-3031**  
**homepage: [http://e\\_steininger@cuhad.upr.clu.edu](http://e_steininger@cuhad.upr.clu.edu)**

### **About the Institution**

The University of Puerto Rico, Humacao University College was founded in 1962, less than 40 years ago. Today, it has an enrollment of more than 4,200 students. Ninety-nine percent of the students attending the University are Puerto Rican.

### **Support Services and College Environment**

A federal program funded by the Office of Naval Research (ONR) provides scholarships to talented students who decide to pursue studies in science or mathematics. Along with scholarship opportunities, students may receive financial aid through Pell grants, loans, and work study programs. A number of federally funded programs provide financial support for undergraduate research projects which involve, on average, 120 students. The Minority Access to Research Careers (MARC) program also provides funds for research during the academic year as well as travel funds for students to attend national scientific meetings. During the summer, students may find employment or enroll in classes by contacting their academic advisor or Practice Industry Coordinator. In addition, summer programs bring high school students to campus for enrichment in MSE subjects. These pre-college programs are funded by ONR and the National Institutes of Health (NIH). The mathematics and science departments offer tutorial sessions for students needing extra help. In addition, faculty members are involved in tutoring, mentoring, and research, and are available to students during office hours.

Faculty members at the University want to know about student concerns. Student representatives participate in departmental meetings and each student is assigned an academic counselor or a mentor. Informal study groups with other students or teachers help those who need in-depth, special attention. The Physics Department has special rooms set aside for study groups. University students may become affiliated with a number of clubs or

organizations on campus. Many departments have academic societies such as the American Chemical Society Student Chapter, which hold monthly meetings. Twice a week, the University holds open houses at its observatory. The University is dedicated to the total education of all its students.

### **University of Puerto Rico, Rio Piedras Campus**

**Prof. Maria G. Morgado, Associate Dean of Academic Affairs**

**P.O. Box 160**

**Rio Piedras, PR 00604**

**Enrollment: 20,027**

**Highest Offering: Doctorate**

**tel: 809/890-2681**

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**homepage: N/A**

### **About the Institution**

The University of Puerto Rico, Rio Piedras Campus, was established in 1903. It enrolls approximately 20,000 students and offers programs leading to a bachelor's, master's, or a doctoral degree. In 1993, the University awarded 310 B.S. degrees, 31 M.S. degrees, and 6 Ph.D.s.

More than 600 students are recruited from local high schools each year. Once a year, an open house is held for students and their parents or guardians. The University's recruitment office offers an orientation presentation that discusses what is expected of a college student; course/major options; and financial, personal and academic support available.

### **Support Services and College Environment**

The University offers financial assistance in the forms of scholarships, Pell grants, work study programs, and institutional research stipends. Undergraduate research is strongly encouraged, and support is provided through the Minority Biomedical Research Support (MBRS) and Minority Access to Research Careers (MARC) Programs. Also, the Research Center for Science and Engineering offers research opportunities through its Alliance for Minority Participation (AMP) Program.

Academic departments organize tutorial sessions for interested students. The College of Natural Sciences has a counseling office where students may receive both academic and personal counseling. The University requires all faculty to hold office hours for a minimum of six hours per week. The Biology Department has a course in which a student may register to serve as a tutor in a laboratory class, earning up to two credits. The Environmental Sciences Program, in collaboration with the National Geographic Society and the Puerto Rican Department of Education, has a pre-college teacher training program.

One reason for the success in graduating a high percentage of students in MSE majors is the dedication and commitment of the professors, administration, and staff. Each student is assigned an advisor who helps the student to organize his/her curriculum. No student may register for classes without first meeting with his/her advisor. After a major field has been chosen, a student may become a member of any of the academic or social organizations available on campus, such as the Puerto Rico Society of Microbiologists. In addition, the Student Council sponsors numerous extracurricular activities.

Professors from several departments serve as science fair judges at local, state, and regional science fairs. Campus faculty write newspaper articles, operate public television shows, and serve as consultants to government agencies. Students often assist professors with research and writing. University of Puerto Rico, Rio Piedras Campus, plans to eventually offer Ph.D. degree programs in all departments and incorporate computer technology into the teaching/learning process.

## FEATURES\* OF SUPPORT SERVICES AND COLLEGE ENVIRONMENT

(Institutions are listed in rank order according to the number of MPSE Degrees Awarded to Minority Students in 1992-93)

### PUERTO RICO

INSTITUTION	COMMUNITY OUT-REACH	SPECIAL RECRUITMENT	SPECIAL SCHOLARSHIPS	SPECIAL OFFICE	SPECIAL COUNSELORS	ACCESSIBLE FACULTY	SUMMER BRIDGE	SPECIAL TUTORING	STUDY GROUPS	MSE STUDENT ORGANIZATIONS	ONE ON ONE ADVISING	PEER TUTORS	OTHER
University of Puerto Rico-Mayaguez**													
Universidad Politecnica de Puerto Rico		√	√		√	√				√			
Univeristy of Puerto Rico-Rio Piedras		√				√	√	√	√	√	√		Mentors Program Formal Collaborative
Inter American ** University-Metropolitan													
University of Puerto Rico-Bayamon **													
Inter American University San German**													
University of Puerto Rico-Humaco	√							√	√	√	√		Formal Collaborative
Pontifical Catholic Univ. of Puerto Rico-Ponce	√		√		√	√		√	√	√			Undergraduate Research; Mentors Program
University of Puerto Rico-Cayey **													
University of Puerto Rico-Arecibo **													

\* - Based upon information provided in institutional responses to QEM survey

\*\* - Did not return survey

## SUMMARY OBSERVATIONS

### FEATURES OF SUPPORT SERVICES AND COLLEGE ENVIRONMENT REPORTED BY "TOP TEN" SURVEY RESPONDENTS

The 104 institutions responding to the survey distributed by QEM to 160 institutions reported a number of services and programs that might be contributing to their success in producing non-Asian MSE degree recipients relative to other institutions in their respective states. These services and programs involve community outreach, special recruitment activities and scholarships, a minority affairs office, special counselors, accessible faculty, summer bridge programs for new students, special tutoring programs (including peer tutoring), opportunities to participate in study groups, availability of MSE student organizations on campus, and one-on-one departmental advising. A brief summary of the types of services and programs offered and an indication of how broadly they were reported is given below.

#### Community Outreach

A majority of the institutions responding to the survey reported that they conduct some form of community outreach activities in their efforts to attract more minority applicants. These activities include visits to high schools by faculty, staff, students, and alumni to talk with potential applicants; inviting high school students to visit the campus to meet faculty and students, discuss MSE careers, and observe college life up close; working with local neighborhood agencies and churches to share information regarding college admissions and financial support; participating in family mathematics and science programs for middle and high school students and their parents; and conducting residential summer enrichment experiences for minority students interested in MSE disciplines.

#### Special Recruitment

Nearly 90 percent of the respondents reported that they conduct special recruitment efforts to attract minority students to MSE majors. These efforts include targeting schools with high minority student enrollment; having designated staff who are culturally sensitive to particular minority groups recruit in minority communities; sending institutional brochures to minority students based on information supplied by national college testing programs (for example, the ACT or the SAT); holding a cultural focus day, which is a campus-wide effort to recruit talented minority students; and having college juniors and seniors visit high schools along with college faculty to discuss MSE careers and opportunities for college attendance.

## Special Scholarships

Special scholarships played a key role in the recruitment and retention of minority MSE scholars. Several institutions award scholarships to eligible students through federally supported programs such as the NSF's Alliance for Minority Participation (AMP) Program, the NIH's Minority Access to Research Careers (MARC) Program, and the NIH's Minority Biomedical Research Support (MBRS) Program. Also, a number of institutions award scholarships to minorities through corporate and foundation support or through individual private philanthropy. Examples of such support are the International Paper Scholarship at Mississippi State University, the Johnson and Johnson Scholarship at Rider University, and the Meyerhoff Scholarship at the University of Maryland, Baltimore County.

## Minority Office

Approximately one-fourth of the responding institutions reported having special offices devoted to minority affairs. In most cases, these offices provide counseling services to minority students and serve as campus centers for minority recruitment and retention. Some of the institutions employ full-time recruiters whose primary responsibilities are to recruit minority students and administer minority-focused programs. Others have offices that co-sponsor study skills sessions and a variety of career development, internship, and graduate school opportunity programs.

## Special Counseling

Several institutions reported having coordinated efforts that employ advising and intervention strategies to ensure that lines of communication always exist between and among students, advisors, instructors, and deans. For example, in coordination with the Office of Minority Educational Affairs at Cornell University, each undergraduate college has an assistant dean, or the equivalent, who advises minority students. Also, MSE faculty advisors are available to counsel minority students on academic issues and other concerns.

## Accessible Faculty

Most of the respondents reported that faculty members are available by appointment or during regularly scheduled office hours. Several institutions identified faculty members who expressed particular interest in working with minority students on academic concerns beyond the normal working hours.

## Summer Bridge

Most of the respondents reported having some type of summer bridge program for new students. Bridge activities take a variety of forms. For example, several institutions conduct Upward Bound programs for minority students; the University of North Carolina at Chapel Hill operates a summer bridge program to assist African American and American Indian students whose academic profiles suggest they might need extra help to ensure their success in college courses; and the University of California, Berkeley sponsors a summer academy that involves more than 3,000 underserved high school students who come to the campus and study under world-renowned theorists and researchers who are often distinguished teachers. The primary goal of the academy is to increase the number of students from underserved populations who are competitively eligible to enter Berkeley.

## Special Tutoring

More than 85 percent of the responding institutions reported that they had special tutoring programs for students. At the University of Illinois at Chicago, for example, the African American Network and LARES, a Hispanic service organization, provide tutoring and counseling support. The University of South Carolina, Columbia operates the Minority Engineering Program Tutorial Network to assist first- and second-year students in the use of computers for academic readiness. The University of Mississippi offers support sessions for students needing extra help in mathematics, science, and engineering through one-on-one tutoring and seminars.

## Study Groups

More than half of the institutions returning the survey reported that they offer formal or informal study groups for MSE students. Several institutions indicated that they organize study groups in various MSE departments to enhance in-class learning and assist students in acquiring deeper understanding of mathematical and scientific concepts through participation on problem-solving teams.

## MSE Organizations

Most of the respondents reported that they provide opportunities for students to participate in campus chapters of national MSE professional organizations or associations. These include student chapters of the American Chemical Society, the American Physical Society, the Mathematical Association of America, the Phi Sigma National Biology Academic Honor Society, the American Society of Civil Engineers, and the Biology Pre-Med Society. Organizations cited that have a particular appeal to minority students are the National Society of Black Engineers, the Society of Hispanic Engineers, and the Beta Kappa Chi Honorary Scientific Society.

## One-on- One Departmental Advising

About 38 percent of the responding institutions reported they provide one-on-one advising to students through their major departments. For example, at Spelman College every student is assigned an advisor in her academic department. Moreover, the College employs advisors for different student classifications; advisors for different careers; and staff to identify and advise on special opportunities.

## Peer Tutors

About 60 percent of the institutions reported using peer tutoring. Examples include the Office of Study Skills and the Office of Multicultural Affairs at the College of William and Mary that offer tutorials and support sessions facilitated by upperclass and graduate students; and the Minority Engineering Program at Southern Illinois University at Carbondale employs junior and senior students with good academic records to tutor other students.

## Other

Several institutions report involvement in formal collaboratives to enhance the participation of minorities in MSE disciplines. These collaboratives include the NSF-supported Alliance for Minority Participation (AMP) in Mathematics and Science which encompasses a relatively large number of universities in the targeted states. The AMP projects involve strategies for increasing minority representation in MSE careers at several points along the educational pipeline.

Undergraduate research opportunities were reported by almost 40 percent of the respondents, including Chicago State University which collaborates with Argonne and Fermi National Laboratories to provide hands-on research experience in areas that support the mission of the laboratories. Summer internships and corporate cooperative work experiences during the academic year were reported by several of the institutions.

## RECOMMENDED NEXT STEPS

Given that the 19 states in which minority students are at least 25 percent of the high school graduates enroll nearly 80 percent of the U.S. minority higher education student population, it makes sense to target efforts to address minority MSE underrepresentation in those states. Coordination and collaboration across projects could lead more quickly to an identifiable, multiple-entry pathway that allows students to move more smoothly from one part of the educational continuum to the next, arriving there with the skills and knowledge necessary for success. Developing such a pathway requires a plan of action.

A place for states to begin might be with the establishment of a state-wide steering committee charged with the responsibility, and given the necessary resources, to create a plan based upon promising and effective strategies in place within the state as well as upon relevant research and practical experience. The goal is a plan that will enable the state to make its proportionate contributions to the national baccalaureate and doctoral goals as well as to ensure that residents have the skills they need for success in the work place. This is especially important for the targeted states, given the growing population in these states of the very groups most underrepresented in technical fields.

A state plan also must include as a key element articulation agreements or clearly defined relationships between institutions at key transition points at the K-12 level and beyond (for example, between third and fourth grades; middle/junior high and high school; school/college and the work place; freshman and sophomore years in college; two- and four-year institutions; and undergraduate and graduate/professional institutions). A second component of a state plan should focus on teacher preparation and professional development. Partnerships should be built between and among teacher education institutions in the state to ensure that current and future mathematics and science teachers of minority students are able to offer more challenging courses to their students. Significantly increasing the number of minority teachers also should be a goal, given the serious underrepresentation of minorities in the teaching work force.

A third area that a state plan ought to reflect is the role of technology in education and how it can be used in creative ways to more swiftly close the achievement gap between children from low-income families and their more affluent peers. Very importantly, the plan also should address institutional climate and the critical role it plays in determining the quality of life as well as the degree of success that minority college students experience, whether on a predominantly white or a predominantly minority campus.

Higher education institutions in the states can play multiple roles in the development of the state action plan by:

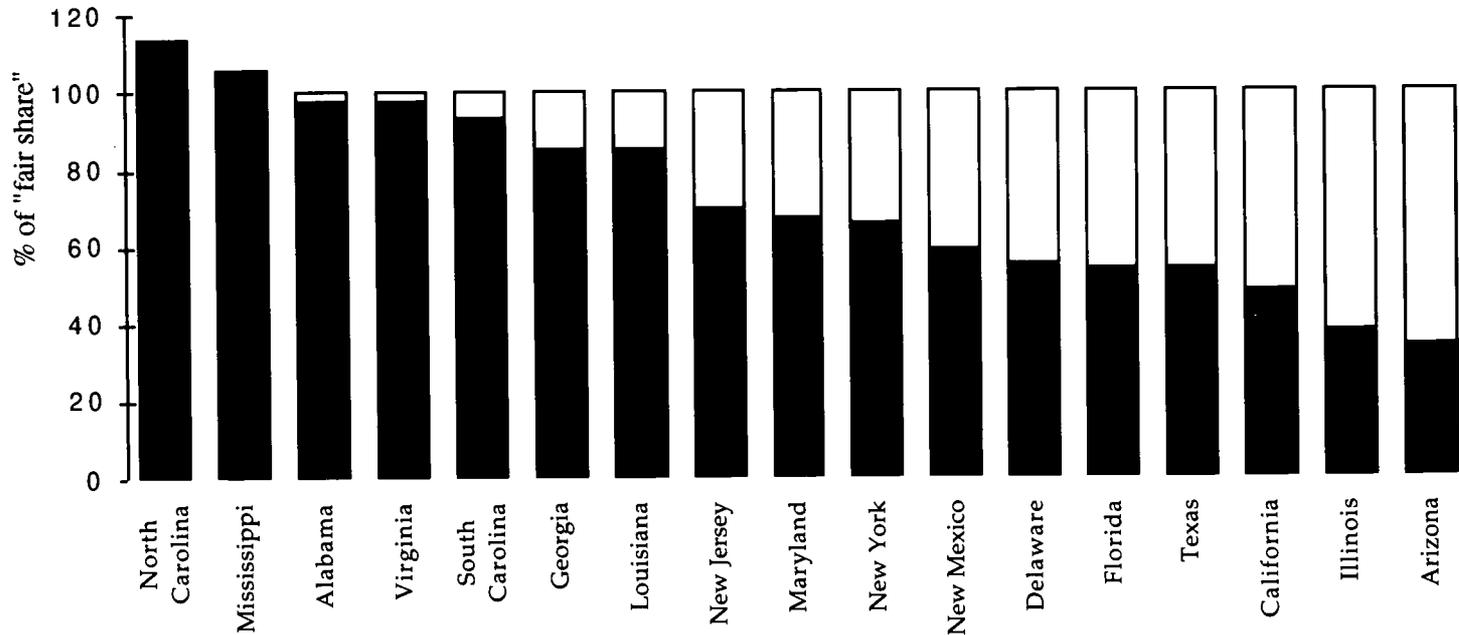
- (1) ensuring articulation between their programs and those at two-year institutions, given the disproportionate number of minority students enrolled in two-year institutions;
- (2) assessing the quality of their teacher preparation and professional development programs to determine if the graduates/participants in these programs are prepared to meet national professional standards for teachers as well as to offer courses that meet national curriculum standards;
- (3) conducting research on the potential technology holds for eliminating the gap in student performance and designing courses that reflect their findings; and
- (4) examining in depth the climate on their campuses for minority students as reflected in admissions policies and practices; academic and personal support programs available; and faculty expectations and accessibility.

Finally, a state action plan should reflect an underlying strategy for providing “close to home” technical assistance. Institutions in the state should be identified that can provide technical assistance to other institutions in the state in order to strengthen the institutions’ ability to produce more minority MSE baccalaureate and doctoral degree recipients as well as minority teachers.

## Endnotes

- 1 AL, AZ, CA, DE, FL, GA, IL, LA, MD, MS, NJ, NM, NY, NC, SC, TX, and VA.
- 2 Quality Education for Minorities Network, Washington, DC, January 31, 1994. "Minority College Enrollment by State," prepared using data from the January 26, 1994 Edition and the September 18, 1991 Edition of *The Chronicle of Higher Education*, ppA32, and A40 respectively.

## The Challenge We Face



## APPENDIX

### Questions Regarding Possible Factors and Strategies Contributing to Institutional Success in Producing Minority Baccalaureate Degree Recipients in Mathematics, Science, and Engineering (MSE) Fields

Quality Education for Minorities (QEM) Network  
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May 1996

The intent of these questions is to assist in the identification of programs, services, or conditions on your campus that might help to explain your institution's success, relative to other institutions in your state, in graduating members of underrepresented minority groups (African Americans, Alaska Natives, American Indians, Mexican Americans, or Puerto Ricans) in mathematics, science, or engineering fields.

For those services or programs listed below that exist on your campus, please briefly describe them and indicate the extent, if known, of underrepresented minority student participation in these services or programs. If special efforts are made to reach minority students in any of these, please briefly describe those efforts and indicate your sense of their effectiveness Where possible, please distinguish between general services or programs and those specifically focused on MSE.

1. Recruitment
2. Scholarships and/or other forms of Financial Support
3. Freshman and Upperclass/Departmental Advising/Departmental Meetings and/or extracurricular activities with student majors
4. Undergraduate Research/Teaching/Tutoring Opportunities  
(Academic year \_\_\_ and/or summer \_\_\_)
5. Student Study Groups (If yes, check all that apply)  
Formal \_\_\_ Informal \_\_\_ Departmental \_\_\_ Living Group \_\_\_  
For specific courses (if so, please give course name) \_\_\_\_\_

6. Tutorials or other support sessions for students needing extra help in mathematics or science \_\_\_\_  
 If yes, offered by Department\_\_\_\_, Student Services\_\_\_\_ Other (please specify)\_\_\_\_\_
7. Particular members of the MSE faculty with special interest in or reputation for working with students outside of the classroom and their regular office hours to whom minority students might be particularly attracted
8. MSE-oriented Student Organizations/Chapters of National Organizations  
 Mathematics\_\_\_\_ Science\_\_\_\_ Engineering\_\_\_\_ Other Science\_\_\_\_
9. Formal mechanism, for providing information, advice, and counseling on summer, career and/or graduate school opportunities to students, including agreements with other institutions or business/industry for summer work
10. On-campus, pre-college program(s), especially in mathematics or science  
 If so, grade levels targeted\_\_\_\_ Length of program\_\_\_\_  
 Residential\_\_\_\_ Externally funded\_\_\_\_
11. Minority or community-focused outreach activities
12. Formal or informal articulation with community colleges enrolling a large number of minority students
13. Other programs/services not covered above
14. Institution's future plans with respect to the services/programs above to attract, retain, and graduate more minority students, particularly in MSE fields  
 (continue\_\_\_\_ expand\_\_\_\_ reduce current level of effort\_\_\_\_)  
 Please briefly describe any changes planned

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## About the QEM Network

The Quality Education for Minorities (QEM) Network is a non-profit organization, based in Washington, DC, dedicated to improving education for minorities and other underrepresented groups throughout the nation. It was established in July 1990 as the successor to the MIT-based Quality Education for Minorities Project. Operating with an initial grant from the Carnegie Corporation of New York, the QEM Network serves as a focal point for the implementation of strategies to help realize the vision and goals set forth in the QEM Project's January 1990 report: *Education That Works: An Action Plan for the Education of Minorities*.

The QEM Network serves as a national resource and catalyst to help unite and strengthen educational restructuring efforts to the benefit of minority children, youth, and adults, while advancing minority participation and leadership in the national debate on how best to ensure quality education for all citizens. It seeks to put into practice the recommendations in the QEM Action Plan by collaborating with minority and non-minority individuals, groups, organizations, and institutions around the country.

The QEM Network employs a networking and coalition building approach. One level of effort is focused on the national education scene while the other is directed towards helping local groups develop the capacity to mobilize their communities around needed educational improvements.

### About the Technical Assistance Project (TAP)

With support from NSF, QEM provided technical assistance to (1) institutions in NSF's various minority-focused programs on ways to improve the effectiveness of their efforts and the dissemination of information about their work; and (2) non-grantee minority institutions to improve their participation in NSF-sponsored programs through proposal development and evaluation workshops and prior review of proposals. As part of the project, QEM developed a Clearinghouse to disseminate information on minority-focused MSE programs, issues, and policies with a special emphasis on exemplary models. A series of technology conferences were conducted for presidents of minority institutions to discuss the role of technology in the development of a strong science infrastructure.

By December 1996, QEM had completed a 26-part series of state and urban conferences that were convened in collaboration, with several institutions nation-wide, under the theme "Together We Can Make It Work." Conference discussions focused on issues, strategies, and action plans to increase the participation of African Americans, Alaska Natives, American Indians, Mexican Americans, and Puerto Ricans in MSE fields.

The long-term goal of TAP is the development in each state of a plan of action to significantly increase minority participation in MSE fields and teaching careers. Proceedings from the Conferences have been prepared and institutions leading their respective states in the production of minority MSE degree recipients have been identified.

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