Interdisciplinary STEM Teaching & Learning Conference

Mar 9th, 10:25 AM - 10:45 AM

The GPC & AMC MESA Program

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Atlanta Metropolitan College

Kouok Law  
Georgia Perimeter College

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The Georgia Perimeter College and Atlanta Metropolitan College
MESA Programs

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Georgia Scholarship of STEM Teaching & Learning Conference
Georgia Southern University
March 09, 2012 | Statesboro, Georgia
The MESA program began in California.

The USG assumed management of Georgia MESA starting FY-2008.

Georgia MESA Pilot Program:
- Atlanta Metropolitan College
- Georgia Perimeter College
- Darton College
- South Georgia College
PURPOSE OF MESA

- Prepares educationally disadvantaged students for four-year, math-based degrees
- Develops academic and leadership skills
- Focuses on historically underrepresented students in four-year and graduate level programs
- Assists students to bridge to four-year institutions
- Provides undergraduate research experiences
MESA COMPONENTS

- MESA learning and implementation models
  - MESA Center
  - Academic Excellence Workshops (AEW: Problem-Based Learning)
  - Leadership in Science and Research Training courses
- Student activities:
  - University/Industry Tour
  - STEM Day
  - Professional etiquette training
  - Counseling sessions
  - Financial Incentives
  - Tutoring in STEM areas
Description of Components:

- **Recruitment**
  - MESA-Brochures and Applications
  - Visits to STEM classes and STEM Day events
  - MESA Club participants
  - Formal Interviews for MESA scholars
  - Recruitment done Spring and Fall Semesters

- **Selection Criteria**
  - Underrepresented minority STEM majors
  - Academic Excellence Workshop attendance
  - Registration in the Topics in Science Leadership and Research course
Enrichment Activities

• **MESA Center**
  ◦ Dedicated to MESA activities
  ◦ Studying and computing facilities

• **Advisement**
  ◦ MESA Faculty Advisor
  ◦ One hour group academic counseling
  ◦ Must complete Degree Transfer worksheet
  ◦ Portfolio containing Three Year Education and Career Plan
Research and Bridging

- Summer Internships
- Research Conferences
- Topics in Science Research Paper and Presentation
- Visits to STEM Related Industries and Research facilities (Government and Universities)
GPC-MESA Results
Academic Excellence Workshop
## GPC MESA Scholars

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<tr>
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<th>Summer</th>
<th>Fall</th>
<th>Spring</th>
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<td>370</td>
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# GPC MESA Transfers

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<td>FY-2011</td>
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<td>FY-2012</td>
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<td>65</td>
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<tr>
<td>FY-2013</td>
<td>12?</td>
<td>32?</td>
<td>28?</td>
<td>72?</td>
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<td><strong>131</strong></td>
<td><strong>108</strong></td>
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<td>2010</td>
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# GPC-MESA STEM Grades

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<td>Phys-2211</td>
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<td>16</td>
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<td>85.7%</td>
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<tr>
<td><strong>TOTAL</strong></td>
<td><strong>186</strong></td>
<td><strong>156</strong></td>
<td><strong>83.9%</strong></td>
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Gainesville Mathematics Tournament

GPC: 1st Place Overall, 2010
MESA & Clarkston 2010 Team
Outcomes at AMC MESA
AMC-MESA STUDENT DEMOGRAPHICS - STEM MAJORS

PERCENTAGE OF MESA STUDENTS IN STEM MAJORS IN 2009 - 2010

- BIOLOGY: 61%
- CHEMISTRY: 16%
- PHYSICS: 0%
- MATHEMATICS: 3%
- ENGINEERING: 13%
- COMPUTER SCIENCE: 7%

PERCENTAGE OF MESA STUDENTS IN STEM MAJORS IN 2008 - 2009

- BIOLOGY: 64%
- CHEMISTRY: 11%
- PHYSICS: 0%
- MATHEMATICS: 3%
- ENGINEERING: 11%
- COMPUTER SCIENCE: 4%
- PHYSICAL THERAPY: 4%
Impact of MESA Program on Students

- Five AMC-MESA made poster presentation at the 88th Annual GAS Conference – March 25, 2011

- Two AMC-MESA Scholars made Research Presentations at the Summer 2008 Albany State University HBCU-UP Research Program

- MESA students have attended several workshops including the Minority Serving Institutions Research Partnership (MSIRP) Conference 2008 and Workshops on Transfers to Four-Year Institutions 2009 - 2011
Impact of MESA Program on Students

- Several AMC-MESA Scholars participated in summer internships at:
  - Albany State University Summer 2008, 2009
  - Xavier/Tulane Research Program funded by ONR Summer 2009
  - GA Tech Focus Weekend Program Summer 2009
  - Morehouse School of Medicine Summer 2009
  - NASA & AMP, 2010
  - Study Abroad Experience at the University of Toronto in conjunction with the Ronald McNair Annual Conference 2010
AMC Students and Programs Successes

AMC-MESA RETENTION

- 78.6% STEM student retention rate in 2009
- 64.5% continue to major in STEM fields at AMC today

TRANSFER TO HIGHER INSTITUTIONS

- 45% of the AMC-MESA Scholars have transferred to four-year institutions as STEM majors
AMC-MESA Success

GRADES IN GENERAL PHYSICS I PHYS 1111 FOR ALL REGISTERED STUDENTS COMPARED WITH AMC-HP-MESA STUDENTS FOR SPRING 2008

GRADES IN GENERAL PHYSICS II PHYS 1112 FOR ALL REGISTERED STUDENTS COMPARED WITH AMC-HP-MESA STUDENTS FOR SPRING 2008
MESA OTHER AREAS OF IMPACT

- AEW sessions
- MESA Leadership Conferences
- Minority Serving Institutions Research Partnership (MSIRP) Conference
- NASA Industry and University Tours
- MESA Scholars & MESA Club Mixer
- Annual MESA Luncheon/Dinner
HISTORY OF GEORGIA MESA Conference

- 2007: Darton College
- 2008: Tallahassee Community College
- 2009: Westin Atlanta Airport Hotel
- 2010: No Conference.
- 2011: GPC, Clarkston Campus
- 2012: GPC, Dunwoody Campus
2007 MESA Conference
Darton College
2009 MESA Conference
2012 MESA Conference
Georgia Perimeter College
Challenges of the Programs

• Improve students’ academic performance
• Increase the number of underrepresented minority STEM students transferring into senior colleges, universities and professional schools
• Continue to sustain and seek additional funding for MESA and other related programs at Georgia Institutions
• Partner with four-year institutions to help students meet transfer criteria and attain internship and research opportunities
• Build relationships with Community and Industry Leaders to facilitate internship and research opportunities
Next Steps

Issues

- Retaining “at-risk” STEM students
- Reducing withdrawal rates
- Increasing graduation and transfer rates to the four-year universities
- MESA Conference Business/Corporation sponsors
- Expanding MESA to other GA institutions

Changes

- More rigorous recruitment and interview efforts
- More comprehensive advising procedure
- Program Improvement with increased funding to recruit more STEM students and provide activities that will promote greater academic achievements
- Greater coordination among GA MESA programs
Thank you from all the MESA Students!