

HBCU-UP

Historically Black Colleges and Universities – Undergraduate
Program

at

Johnson C. Smith
University



STEM Learning Communities and the Freshman Year Experience

Dr. Janice Kennedy-Sloan, Program Manager

Ms. Lynn McRae, Program Analyst

Dr. Marilyn Sutton-Haywood, PI

Dr. Dorothy Cowser Yancy, President

The NSF-funded HBCU-UP project, *Community of Research and Experiential Education (C.O.R.E)* is beginning its 4th year of implementation.

JCSU Facts

- **Founded in 1867 as a Liberal Arts College**
- **Private HBCU located in Charlotte, NC enrolling approximately 1400 undergraduate students**
- **60% female, 40% male**
- **The number of declared STEM students is approximately 300**
- **A Technology Center housing Computer Sciences was erected in 1998**
- **The number of STEM graduates now varies between 1 in 3 and 1 in 4**

STEM @ JCSU

(May 2007)*

- Biology (81)
- Chemistry (19)
- Computer Science Engineering (84)
- Computer Science Information Systems (80)
- General Science (21)
- Mathematics (16)

* Data Source: AS/400 enrollment for declared STEM)

HBCU-UP is centrally located in the historic Carnegie Building.

The recently refurbished Carnegie is evolving into a “Student Success STEM Center” structured to provide engagement, capacity, and continuity of services.

The Carnegie

- HBCU-UP Staff
- Change Agent Offices
- Multi-purpose space
- Media Practice Lab and poster prep area
- STEM newsletter
- STEM Resource Ctr.
- Tutorial Labs
- Group Study Rooms



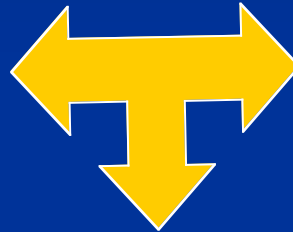
The ECC Trilogy (Jolly, Campbell, Perlman, 2004) serves as the conceptual framework for both reviewing current JCSU initiatives, and planning future programs. In “*Engagement, Capacity and Continuity: A Trilogy for Student Success*” an opportunity is provided to explore what is needed for students to excel in mathematics and science.

All STEM services @ JCSU are delivered within the trilogy.

The ECC Trilogy*

Engagement

Having an orientation to the sciences and/or quantitative disciplines that includes such qualities as awareness, interest and motivation



Continuity

Institutional and programmatic opportunities, material resources, and guidance that support advancement to increasingly rigorous content in the sciences and quantitative disciplines.

Capacity

Possessing the acquired knowledge and skills needed to advance to increasingly rigorous content in the sciences and qualitative disciplines.

Capacity	Academic Consultation	one-on-one and group tutoring
	Guaranteed 4.0	
Continuity	Research opportunities on and off campus	Off-campus summer research On-campus summer research Pre-research summer prep Mini grants program
	Mentoring	UNC Charlotte Computer Laboratories C.R.U.I.S.E. Mini grants program
	Presentations at research conferences	OPT-ED Conference
		Peak Performance Motorsports
		ABRCMS Conference
		HBCU-UP National Research Conference
	Career information	Targeted Advisement
	Grade School. Planning (test prep., application Prep., financing)	Targeted Advisement
Summer program	Off-campus summer research On-campus summer research Pre-research summer prep	
Increased access to computers and other resources	UNC Charlotte Computer Laboratories	
Engagement	Travel	OPT-ED Conference
		Peak Performance Motorsports
		ABRCMS Conference
		HBCU-UP National Research Conference
		UNC Charlotte Computer Laboratories

HBCU-UP Upperclassmen:

- **Travel to STEM conferences**
- **Participate in on and off-campus research (mini grants, C.R.U.I.S.E.)**
- **Publish and present research**
- **Receive targeted advisement and career development**
- **Receive academic consultation**
- **Attend seminars and workshops**

Johnson C. Smith University

Quality Enhancement Plan (QEP)

*Strengthening the Quality of the Freshman Year Experience
Through Student Engagement*

Goal:

Improving academic achievement and persistence by strengthening student engagement

Objectives:


- increasing student engagement in active and collaborative learning
- Increasing student engagement-based learning activities in critical thinking in freshman year courses
- Increasing student engagement in assessment
- Increasing student engagement in linking current learning to planning for the future

Learning Communities

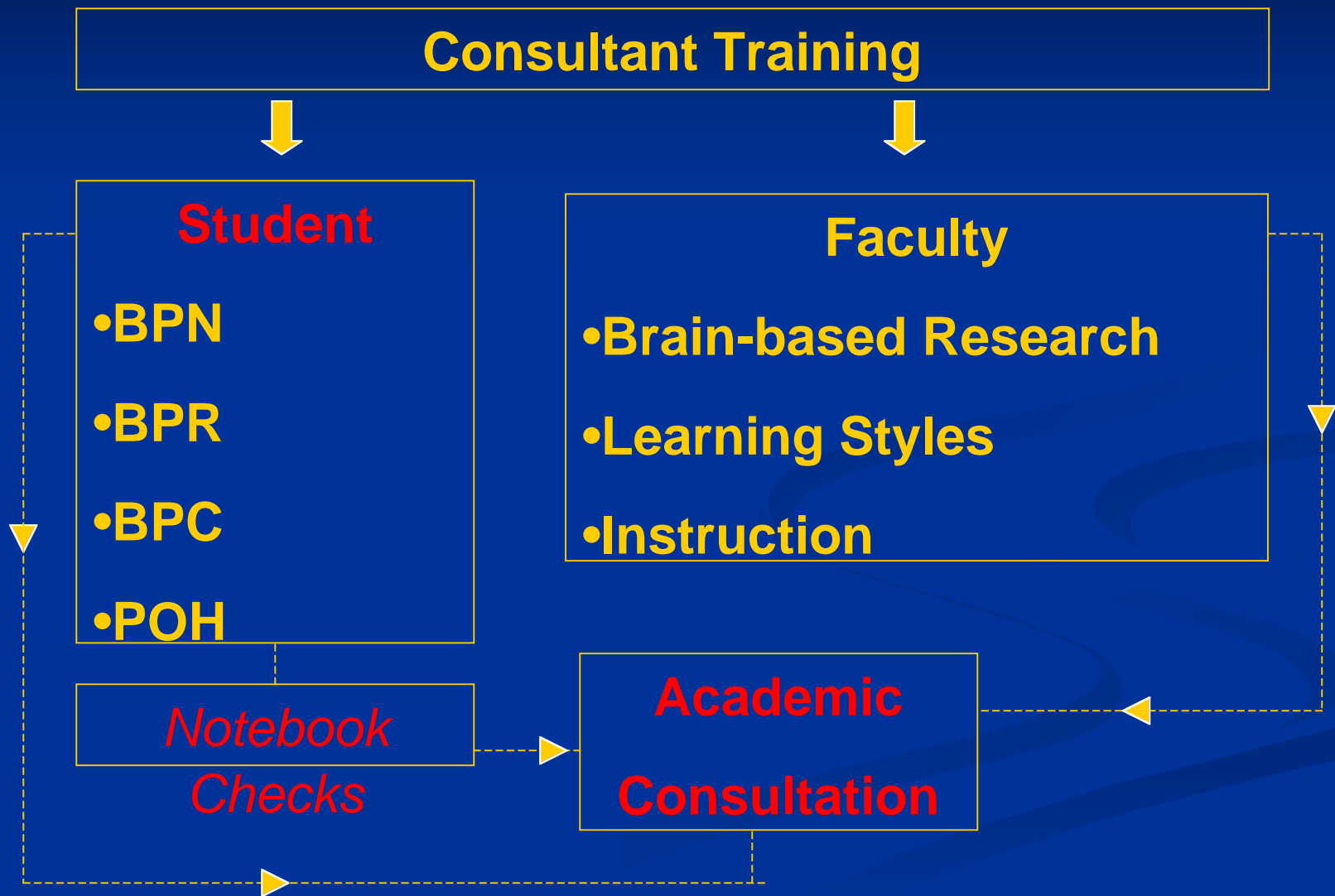
The university is committed to structuring academic programs to improve upon educational outcomes. One such structure has been the use of the Learning Community model. The Learning Community model @ JCSU links a cluster of classes around an interdisciplinary theme enrolling a common cohort of students. The Learning Community model was formally adopted in 2005-06 as **The Freshman Academy**, a campus-wide initiative.

The focus of “blocking” students into course groups by academic interest was aimed at increased retention between the freshman and sophomore years.

HBCU-UP Freshmen:

- Are trained in and utilize the *Guaranteed 4.0* learning system
- Are monitored weekly by staff and student mentors
- Are assigned to a group of classes with students interested in their field of study
- Work with dynamic HBCU-UP “Change Agents”
- Receive individual and group academic consultation (tutoring)
- Are assigned STEM Case Managers
- Participate in co-curricular activities 

Guaranteed 4.0



Sample Block Schedule

ENG131 Change Agent 1 10:00-12:00
M/W/F

LS130 Staff 12:00-12:50 M/W/F

CSC131 Change Agent 2 8:00-9:15
T/TH

MTH131 Change Agent 3 1:00-1:50
M/W/TH/F

NSC130 Change Agent 4 2:00-2:50
Weekly M/W/F during scheduled office hours

ORT111 Change Agent 3 11:00-11:50
Weekly Notebook Check during scheduled office hours or by appt.

Academic Consultation during scheduled tutoring hours (individual or group)

Case Management

drop-in

Academic Consultants

Qualifications

- Must be returning, declared STEM students
- Must have at least a 3.0 GPA
- Must have completed the courses they are tutoring with a grade of

A

Responsibilities

- Attend G4.0 training
- Maintain regular schedules
- Conduct individual and/or group tutoring sessions
- Maintain records

Student Mentors (FWS)

Qualifications

- Must be returning, declared STEM students
- Must be eligible for Federal Work Study Program
- Must have at least a 3.0 GPA

Responsibilities

- Attend G4.0 training
- Maintain regular office hours
- Conduct notebook checks
- Maintain records of visits and enter data
- Refer students to Academic Consultation
- Meet regularly with Change Agents and Coordinator
- Periodically attend Change Agent classes

Three Years

	2005-2006	2006-2007	2007-2008
Engagement	Change Agents	Change Agents	Change Agents
Capacity-Building	Tutoring <ul style="list-style-type: none"> ■ Residential & center ■ Morning thru evening ■ Adult & student 	G4.0 Academic Cons. <ul style="list-style-type: none"> ■ Center ■ Daytime & evening ■ Student only 	G4.0 Academic Cons. <ul style="list-style-type: none"> ■ Center ■ Daytime ■ Student and Change Agent
Continuity	Case Mgmt.	Case Mgmt. Notebook Ck. <ul style="list-style-type: none"> ■ Coordinator 	Case Mgmt. Notebook Ck. <ul style="list-style-type: none"> ■ Coordinator & Student Mentors

Preliminary Results

- Following the 2005-06 year, the retention rate for STEM-declared students within HBCU-UP blocks was 65%. The retention rate for STEM students placed outside the HBCU-UP blocks was 45% by comparison.
- Both Fall 2006 and Spring 2007 GPA group means increased under the Guaranteed 4.0 system, as compared to Fall 2005 and Spring 2006.
- Since 2005-06, there have been significant increases in the number of students participating in STEM co-curricular activities.
- In the summer of 2006, forty-three STEM students participated in internship programs.
- In an internal annual survey of students, 71.2% indicated that they would continue to major in STEM during the 2007-2008 school year. Only 6.3% indicated they “definitely would

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HBCU-UP

**Community of Research and Experiential
Education.**

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