



Widening Access to the STEM Pipeline

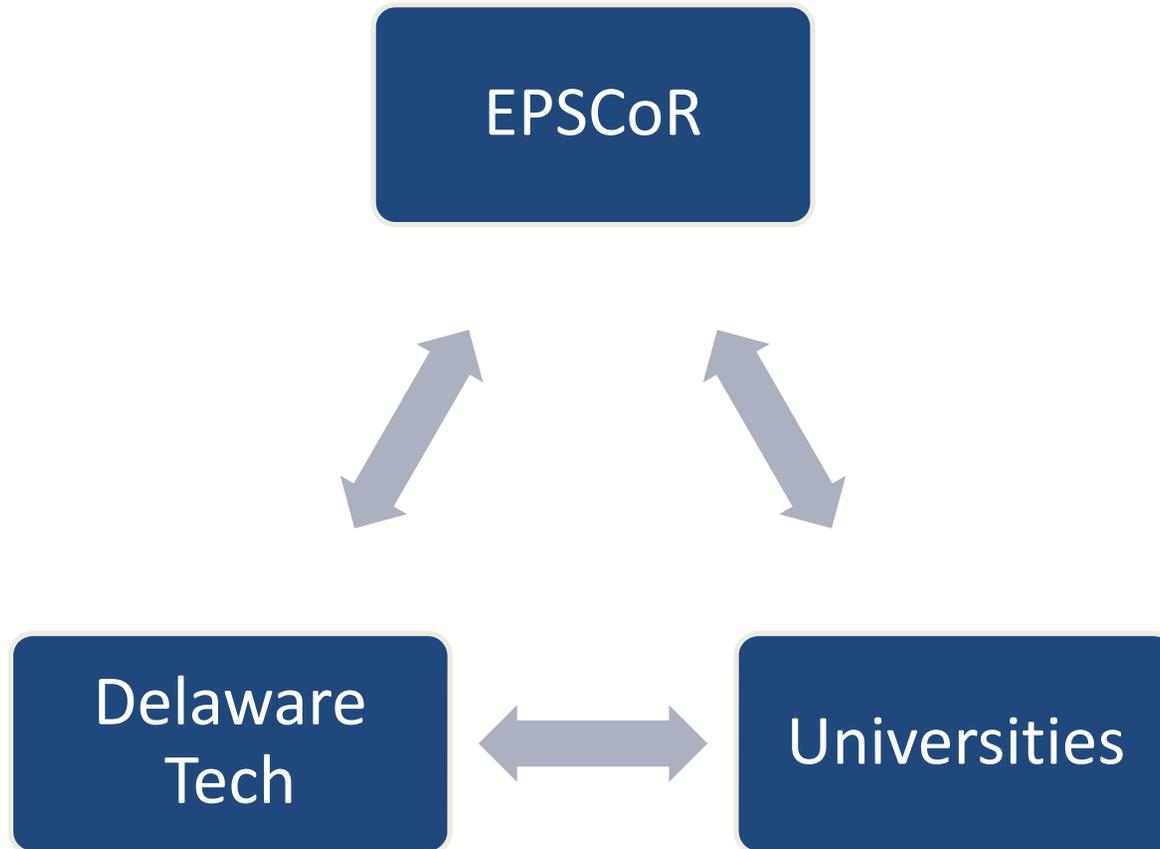
Delaware's Community College – University Partnership

PRESENTER: Stephanie Smith,
Vice President for Academic Affairs

A Shortage of STEM Professionals

- 2,000,000 Number of new professionals needed in STEM fields by 2010 just to replace the retiring baby boomers
- 12% The total percentage of Hispanics and African Americans in the U.S. STEM workforce
- 1/2 The fraction of high school graduates in the U.S. who choose community college as their access point to higher education

A Nine-Year Collaborative Effort



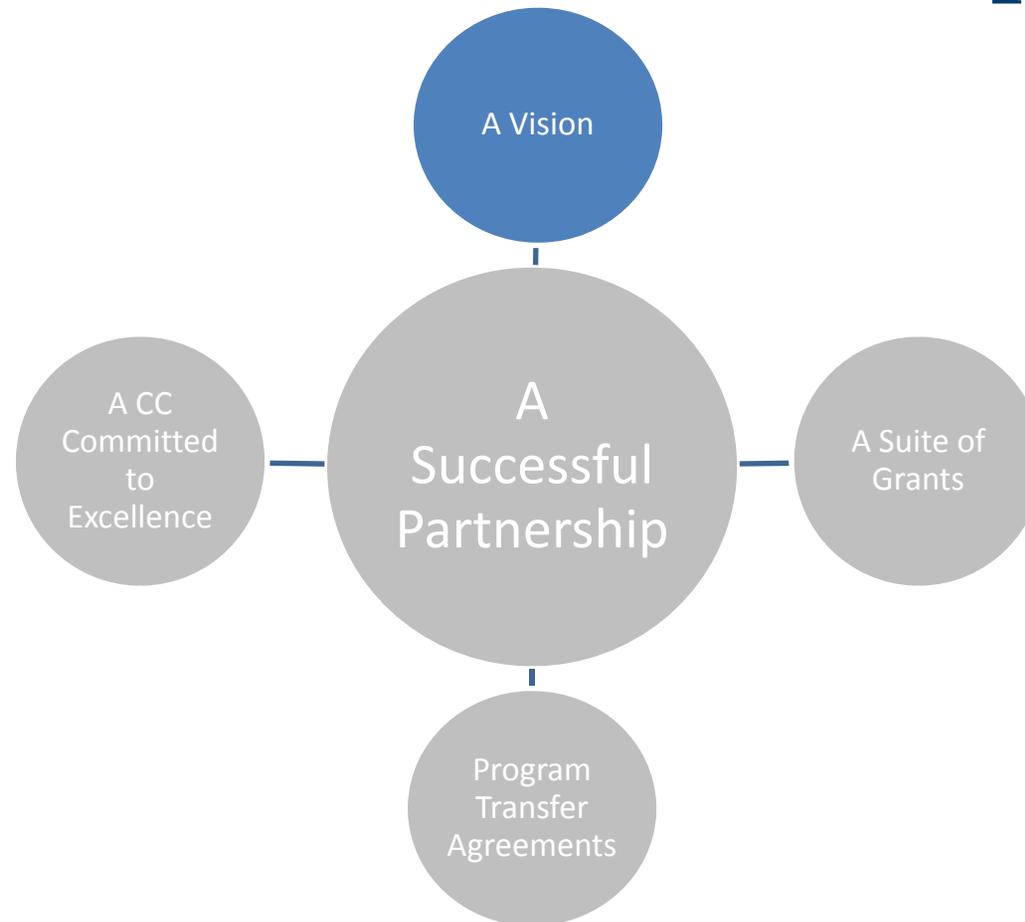
Delaware's Collaborative Story

**A NEW BIOTECHNOLOGY
CAREER PATHWAY
FROM
THE COMMUNITY COLLEGE
FOR
UNDERSERVED STUDENTS**

4 Ingredients for a Successful Partnership



4 Ingredients for a Successful Partnership



Delaware Biotechnology Institute

MISSION: Facilitate a biotechnology network of people and facilities to:

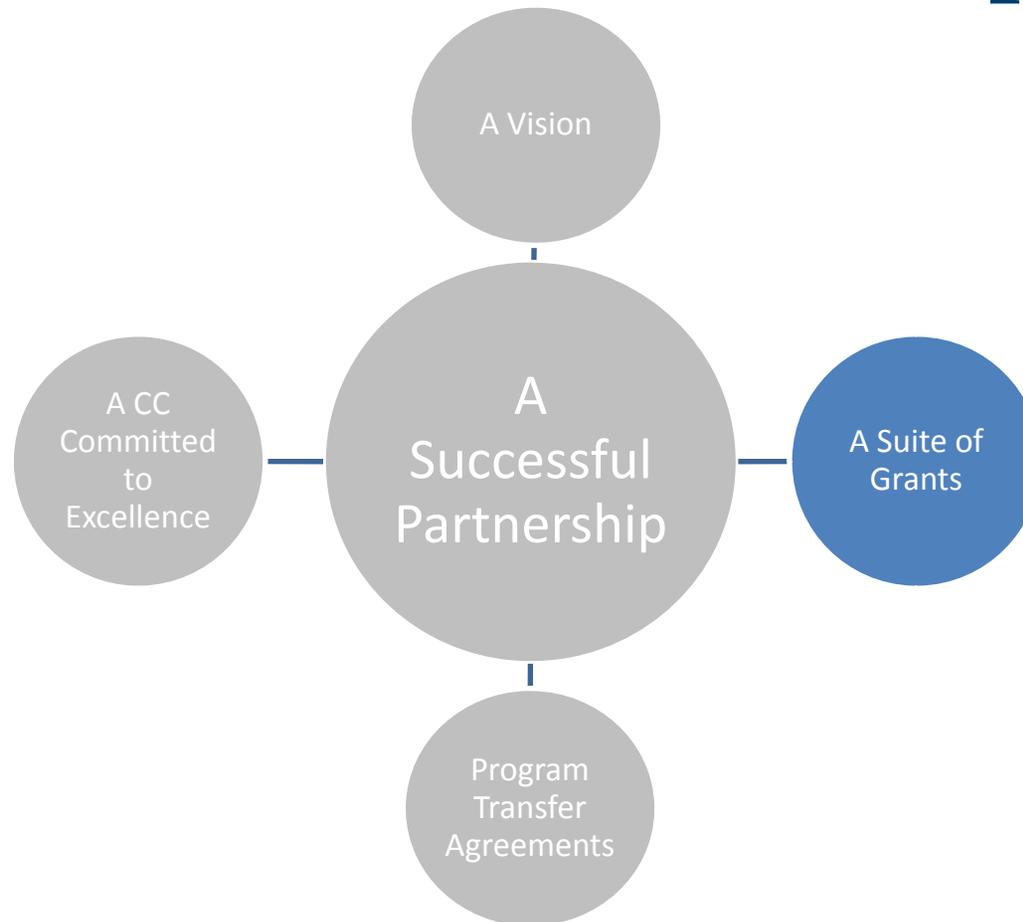
- enhance existing academic and private-sector research,
- catalyze unique cross-disciplinary research and education initiatives, and
- foster the entrepreneurship that creates high-quality jobs.

THREE TYPES OF PARTNERS:

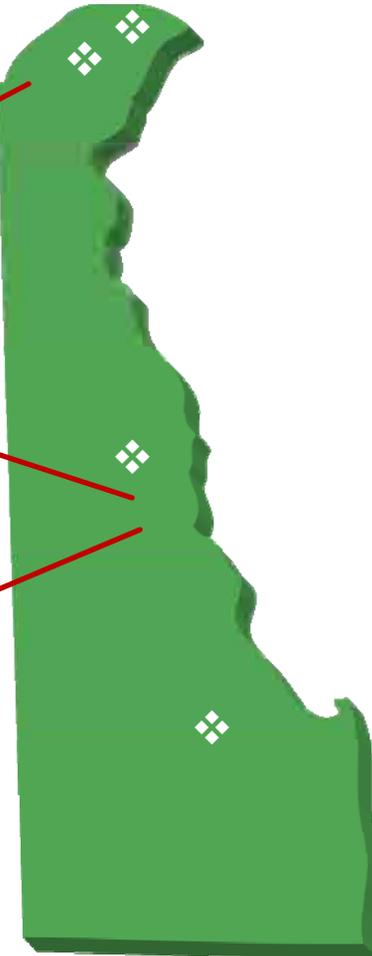
- biotech business leaders and entrepreneurs
- government agencies
- academic institutions

Delaware Tech's New Associate Degree Program in Biotechnology

4 Ingredients for a Successful Partnership

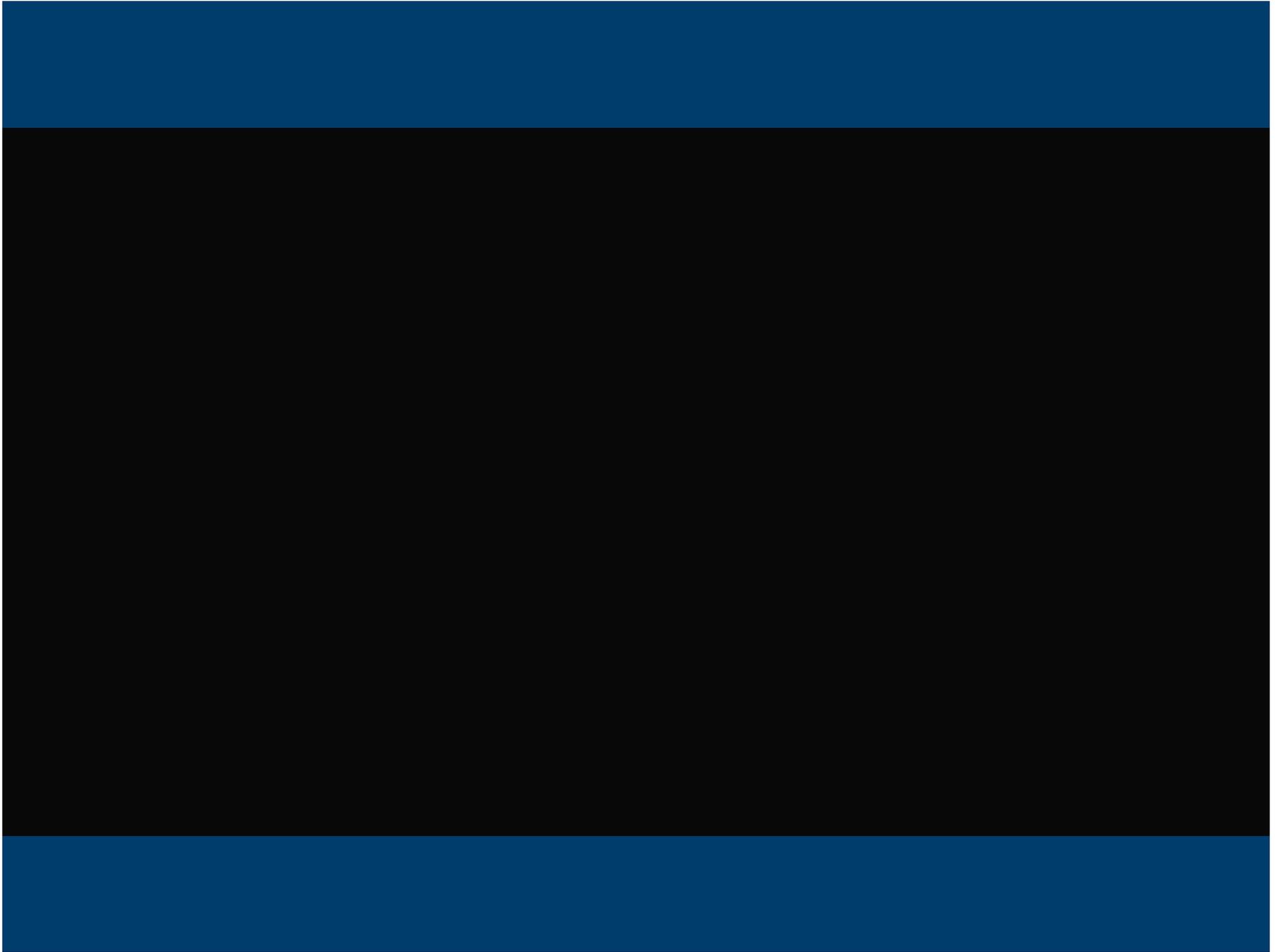


A Higher Ed Collaboration



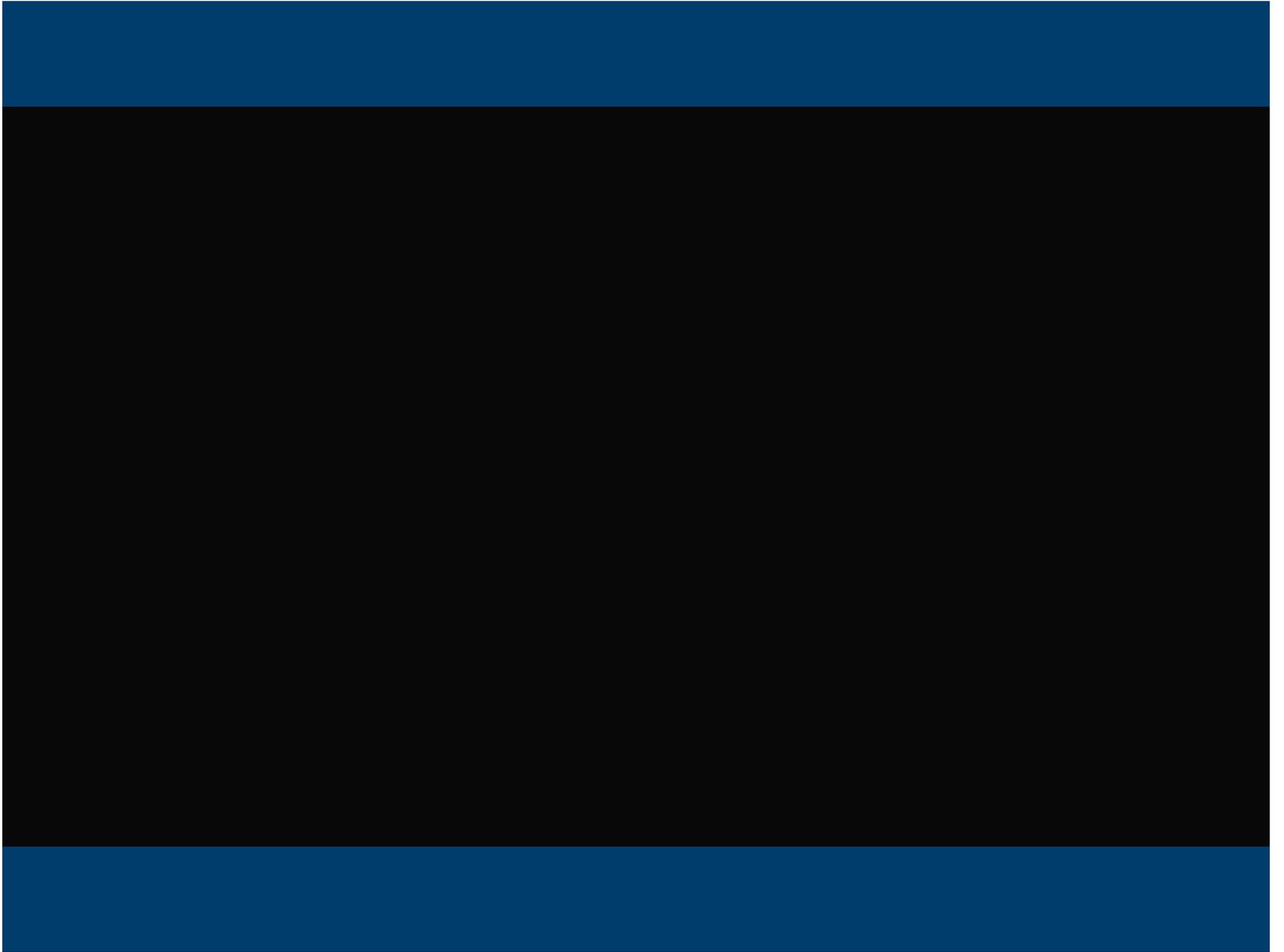
Grant Programs That Spurred Dialogue

- NSF EPSCoR
- NSF ATE
- NIH BRIN
- NIH Bridges
- NIH INBRE



Grant Outcomes

- Funding for new instrumentation and upgraded labs at the community college
- Integration of research into the community college curriculum
- Internships for community college students

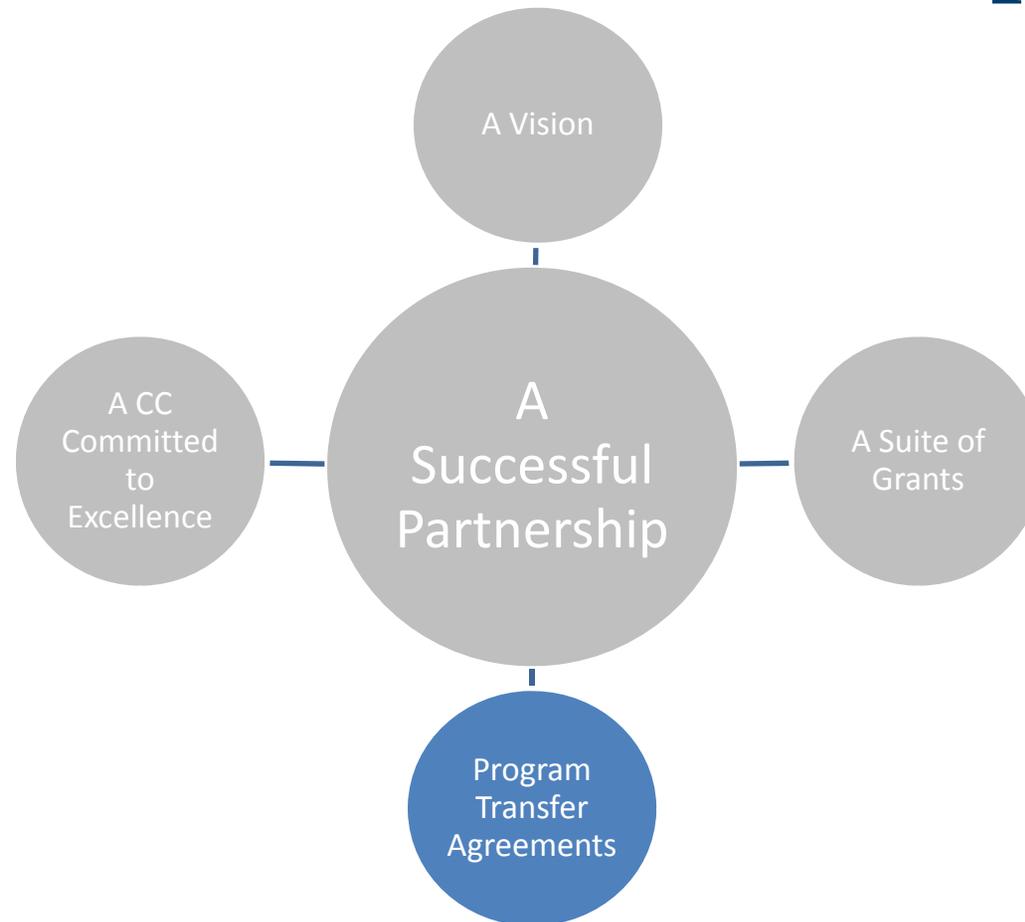




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- **Articulation agreements**

4 Ingredients for a Successful Partnership



Program Transfer Agreement Benefits

Connected Degrees eliminate:

- Redundancy
- Loss of Credit
- Confusion
- Wasted time

4 Ingredients for a Successful Partnership



A Community College Committed to Excellence

- 60 Advisory Committees with more than 1,000 members from business and industry
- National program accreditation
- High licensure and national exam pass rates
- Solid job placement
- Academic success at senior institutions
- Dedicated and enthusiastic faculty



4 Ingredients for a Successful Partnership



Results



- The associate degree program began in 1999 with 94 students; this fall 2011, 267 students are enrolled.
- 46% of the current students initially needed developmental education.
- About half are First Generation College
- 34% are minority

54% of the 1,354 enrolled since the program's inception has either earned their associate degree, transferred or are still enrolled.

Results

These non-traditional students:

- Have transferred to 4-year institutions
- Are working as lab technicians or assistants in research-based businesses
- Contribute to the qualified workforce the biotech industry needs to thrive





Delaware's Center of Excellence

- Based on California model
- Conducts primary research that doesn't replace, but builds upon exiting secondary sources
- Validates workforce needs through business and industry
- Identifies industry conditions, drivers, and competitive context
- Reveals emerging occupations not yet classified
- Explains regional nuances
- Produces both a supply and demand analysis



Thank you!

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