NJ PATHWAYS
TO CAREER OPPORTUNITIES
Aligning Education to Build an Innovative Workforce

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PATHWAYS ACCOMPLISHMENTS

Center of Workforce Innovation for Data Science

Catherine Starghill, Esq.

Vice President

New Jersey Council of County Colleges

Executive Director

New Jersey Community College Consortium for Workforce & Economic Development

WELCOMING REMARKS

Community College Presidents

Dr. David Stout

President

Brookdale Community College

Dr. Lovell Pugh-Bassett

President

Camden County College

Dr. Mark McCormick

President

Middlesex College

Dr. Anthony J. Iacono

President

County College of Morris

Chris Emigholz

Chief Government Affairs Officer

New Jersey Business & Industry Association

WELCOMING REMARKS

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Veda Shamsid-Deen, Esq.

Director, Technology & Innovation, Strategy and Workforce Partnerships

New Jersey Community Colllege Consortium for Workforce Development

Our Education Partners

Brookdale Community College
Camden Catholic High School
County College of Morris
Camden County College
Camden County Technical School
Middlesex College
Morris County Vocational School
Pennsauken High School
Ramapo College of New Jersey
St. John Vianney High School
West Deptford High School

Our Industry Partners

Data Science

Anita Wright, Camden County College
Kelly Fitzpatrick, County College of Morris
Sue Monroe, Brookdale Community College

Center of Workforce Innovation for Data Science

Pathway 1 – Data Science

Connection to High School (Dual Enrollment)

Camden County College created two dual enrollment courses worth **3 college credits** entitled (1) **Intro to Python Programming** and (2) **Intro to Data Science** in partnership with **West Deptford High School, Camden Catholic High School, and Camden County Technical School.** These dual enrollment courses will be offered in the **Fall of 2023**.

Camden County College, County College of Morris, and Brookdale Community College created three dual enrollment courses for (1) Intro to Data Science and (2) Python Programming and (3) Statistics in partnership with **Pennsauken High School, Morris County Vocational School, and St. John Vianney High School**. Students completing these dual enrollment courses will receive **3 college credits** for each course toward their Associate of Science and Applied Associate of Science in Data Science degree programs at their respective colleges.

High school students who complete the Python Programming course are prepared to sit for the Python Programming industry credential**.**

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Pathway 1 – Data Science

Prior Learning Assessment

Brookdale Community College (BCC), Camden County College (CCC), County College of Morris (CCM), and Middlesex College (MC) partnered to use **prior learning assessments (PLA)** to evaluate the following data science industry credentials for college credit:

(1) Certified Entry-Level Python Programmer Certification (PCEP),
(2) Google Data Analytics,
(3) Alteryx Foundation Micro-Credentials, and
(4) Alteryx Designer Core Cert.

Students who successfully pass the professional certification examinations **earn 3 college credits** toward the following Data Science degree programs: Associate of Applied Science in Data Science at **CCC**, Associate of Science in Computer Science (Data Science Option) at **CCM**, and Associate of Science in Mathematics (Data Science Option) at **BCC**.

By awarding PLA credits, the number of courses that students must complete to attain their degree is reduced which has a significant impact on students' lives by decreasing the time to earn a degree and decreasing debt accumulation. Additionally, students are equipped with the necessary skills to enter the technology workforce.

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Pathway 1 – Data Science

Connection to 4-Year College/University

County College of Morris (CCM) partnered with **Ramapo College (RC)** to create an articulation agreement between their Data Science degree programs. The articulation agreement provides for Community College students graduating with Associate degrees in Mathematics, Computer Science, or Data Science to enter an accelerated program to pursue a Bachelor of Science and Master of Science degree in Data Science at Ramapo College.

This articulation agreement will ensure that students will not incur additional time nor expense repeating or duplicating course work and ensures students are equipped with the necessary skills to enter the technology workforce.

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Pathway 1 – Data Science

Experiential Learning

County College of Morris created **3 new internship credit courses** for students that take part in **Data Analytics Internships**. The one credit course is for 45-100 hours, the two-credit course is for 90-200 hours, and the 135-300 hours course is for three credits. The 3 credit Internship Experience course is embedded in the Data Analytics Certificate.

Brookdale Community College enhanced an existing **1-3 credit Mathematics Internship** course with experiential learning skills for its Data Science students. With these enhanced industry skills, Data Science students are prepared to enter the workplace with real world workplace experiences.

These industry focused internships prepare Data Science students to enter the workforce with real world workplace experiences.

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Pathway 1 – Data Science

Adult Learners (Non Credit)

The County College of Morris created **2 non-credit certificates in Data Analytics and Data Visualization**. The **Data Analytics Certificate** offers adult learners a **five-course sequence** where they learn Business Analytics, Visual Basic, R Statistical Programming and Tableau. The **Data Visualization Certificate** offers adult learners **a four-course sequence** where they learn Tableau and, by the end of the program, they will have the knowledge to sit for the Tableau Desktop Specialization credential exam and enter the workforce equipped with the necessary skills to enter the technology workforce.

Brookdale Community College is developing a course in Tableau to offer in their Continuing and Professional Studies (non-credit) division. Adult learners completing the Tableau course are prepared to sit for the Tableau Desktop Specialization credential exam.

Center of Workforce Innovation for Data Science

Pathway 1 – Data Science

Professional Development

Brookdale Community College (BCC), Camden County College (CCC), and County College of Morris (CCM) will serve as **technical assistance providers and trainers** to their own faculty and to other education institutions wanting to implement Data Science industry credential courses and programs. Faculty at these Community Colleges have completed or will complete Data Science Professional Development for PCEP, Tableau Desktop, Splunk, Alteryx, R Programming, Google, and IBM DS.

In an effort to disseminate lessons learned and promote the discipline of Data Science across the state, this Center participated in the Mathematics Assoc. of NJ's Two-Year Colleges (MATYCNJ) Fall conference on November 5th 2022 focused on the current state of Data Science education. The Center led a panel discussion on the Center of Workforce Innovation for Data Science initiative to transform and strengthen the links between education and the needs of employers in New Jersey. Luncheon information table sessions were also hosted as follows:

- Curriculum for an Introduction to Data Science Discussion Lead by Kelly Fitzpatrick (**CCM**)
- OER and Transfer Opportunities in Data Science-Discussion Lead by Sue Monroe (**BCC**)
- Technology used for Data Science-Discussion Lead by Tuan Le and Anita Wright (**CCC**)

As the Center created courses and curriculums are implemented, it will continue to discover, develop, and share useful OER (online educational resources) to improve content and delivery as well as provide support to new programs. Sample first-year course learning materials for an Intro to Data Science and Data Preparation have already been shared.

Q&A

Center of Workforce Innovation for Data Science

Closing Remarks

Catherine Starghill, Esq.

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UPCOMING EVENTS

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