



TRANSFER ARTICULATION AGREEMENT

BETWEEN

COUNTY COLLEGE OF MORRIS  
AND  
RAMAPO COLLEGE OF NEW JERSEY

ASSOCIATE OF SCIENCE (A.S.)  
COMPUTER SCIENCE/DATA SCIENCE OPTION

AND

BACHELORS OF SCIENCE (B.S.) & MASTER OF SCIENCE (M.S.)  
DATA SCIENCE PROGRAM

February 2023

The intent of this agreement is to define the procedures for a transfer articulation between County College of Morris and Ramapo College of New Jersey. The successful implementation of the Agreement depends on the communication of its contents to all involved participants, and the assumption of responsibility by both institutions for such communication.

This AGREEMENT is based upon the completion of an Associate's degree in the approved transfer programs as identified in the Agreement.

This AGREEMENT is in full compliance with the State's Full Faith and Credit Policy and the Transfer Advisory Board's Interpretive Statement of that policy.

The terms of the AGREEMENT will become effective immediately upon the signatures of both parties. Thereafter, Ramapo College will provide information packets for transfer admission, special transfer days and other recruitment services. In turn, County College of Morris will make available to its students all information, including the list of course equivalencies pertaining to this agreement. The agreement and equivalencies will be reviewed when programmatic changes occur to any of the programs.

The AGREEMENT is to facilitate the smooth transfer and transition of graduates from County College of Morris into appropriate upper-level programs. The successful implementation of the Agreement depends on the communication of its contents to all involved participants and the assumption of responsibility by both institutions for such communication.

### **Descriptions of the Programs:**

This agreement is to establish a 2+2+1 program for students to earn:

- A.S. in Computer Science with Data Science option at County College of Morris
- B.S. in Data Science at Ramapo College
- M.S. in Data Science at Ramapo College

in as little as five years.

The 2+2+1 program is an option that builds on the traditional 2+2 pathway for students to transfer from CCM with an A.S. to Ramapo College to earn their B.S. This additional +1 is part of the 4+1 programs offered by Ramapo College that allows students to earn their M.S. in one additional year by taking some graduate coursework as an undergraduate. This agreement outlines the pathway from CCM into the 4+1 programs.

### **Completion of Programs:**

County College of Morris transfer students will be required to meet all graduation requirements as listed for Ramapo College.

Students that enter into the 2+2+1 program may choose to complete only the traditional 2+2 program earning only a B.S. in Data Science. There are no penalties for not completing the full 2+2+1 program.

Students that choose to enter the 4+1 (2+2+1) program are not required to complete their M.S. in Data Science in one additional year. They may elect to increase the timeline to complete the program.

**Eligibility:**

- a. New Jersey Community College graduates who earn an Associate of Science (A.S.) or an Associates of Arts (A.A.) degree will have all of their general education requirements satisfied.
- b. Students can choose to enter the 4+1 (2+2+1) program can earn their M.S. in Data Science in one additional year if they earn a grade point average (GPA) 3.0 at the time they earn a B.S. degree at Ramapo College.

**Financial Aid:**

County College of Morris students transferring into Ramapo College will be treated the same as native Ramapo College students of equal class standing when applying for financial aid in the award and distribution of funds.

**Agreement Review and Update:**

County College of Morris and Ramapo College will assign a staff member to serve as a liaison to assure the maintenance of communications between the two institutions. As necessary, County College of Morris and Ramapo College faculty shall meet to discuss academic programs, especially with regard to any changes being contemplated.

County College of Morris and Ramapo College representatives will consult whenever changes in policy or curricula are articulated which will affect transferring under the terms of this Agreement. In addition, both institutions will review this agreement regularly and make any mutual agreements when necessary.

Representatives from both institutions shall also facilitate support, consultation, and collaboration between their facilities in matters related to this Agreement, general education, degree requirements, and other relevant academic matters.

**Conditions:**

Under the existing transfer agreement between Ramapo College and County College of Morris:

- a. The application fee is waived for those who participate and apply to Ramapo College through this agreement.
- b. The Ramapo Data Science Convening Group and CCM DS pathway will collaborate and participate in shared events, professional development, and/or student club and research presentations and opportunities.

**SELF-INSURANCE BY INSTITUTION** - INSTITUTION is an agency of the State of New Jersey. Any agreement or arrangement signed or entered into on behalf of the State of New Jersey by a State official or employee shall be subject to all of the provisions of the New Jersey Torts Claims Act, NJSA 59:1-1 et seq., the New Jersey Contractual Liability Act, NJSA 59:13-1, et seq., and the availability of appropriations. The State of New Jersey does not carry public liability insurance, but the liability of the State and the obligations of the State to be responsible for tort claims against its agencies and employees are covered under the terms and provisions of the New Jersey Tort Claims Act. The Act also creates a special self-insurance fund and provides for payment and claims against the State of New Jersey against its employees for which the State of New Jersey is obligated to indemnify against tort claims which arise out of the performance of their duties. Claims against the University or its employees should be referred for handling to the Attorney General, Division of Law, Claims Service Section, Richard Hughes Complex, Trenton, New Jersey 08625. Furthermore, the State of New Jersey self-funds for Workers Compensation and Disability.

**A. ANTI-DISCRIMINATION** - The parties agree not to discriminate in employment and agree to abide by all anti-discrimination laws including those contained within N.J.S.A. 10:2-1 through N.J.S.A. 10:2-4, N.J.S.A.10:5-1 et seq. and N.J.S.A.10:5-31 through 10:5-38, and all rules and regulations issued there under.

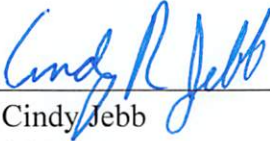
**B. AMERICANS WITH DISABILITIES ACT** - The parties agree to comply with all provisions of the Americans with Disabilities Act (ADA), P.L. 101-336, in accordance with 42 U.S.C. 12101 et seq. 1.4.

**C. COMPLIANCE - LAWS** - The parties shall comply with all local, state, and federal laws, rules, and regulations applicable to the contract.

**D. SUBCONTRACTING OR ASSIGNMENT** - The Agreement may not be subcontracted or assigned in whole or in part, without the prior written consent of both parties. Such consent, if granted, shall not relieve either party of any of its responsibilities under the contract.

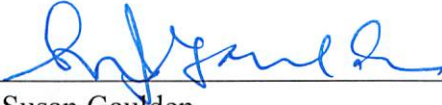
**E. MAINTENANCE OF RECORDS** - The parties shall maintain records associated with the performance of this contract in accordance with the applicable provisions of the NJ State Record Retention Policy. Such records shall be made available to either party upon request for purposes of conducting an audit or for ascertaining other information.

RAMAPO COLLEGE OF NEW JERSEY



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Dr. Cindy Jebb  
President



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Dr. Susan Gauden  
Interim Provost/Vice President for Teaching,  
Learning, and Growth



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Dr. Christopher Romano  
Vice President of Strategic Enrollment, Outreach  
and Engagement

COUNTY COLLEGE OF MORRIS



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Dr. Anthony J. Iacono  
President



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Patrick Enright  
Senior Vice President of Academic Affairs  
Workforce Development, and Student  
Success

## EXHIBIT “A”: 2+2+1 Program



### A.S. Computer Science - Data Science Option: → B.S. Data Science + M.S. Data Science

<b>First Year-CCM</b>					
<b>Fall Semester</b>	<b>HRS</b>	<b>✓</b>	<b>Spring Semester</b>	<b>HRS</b>	<b>✓</b>
ENG 111: English Composition I	3		ENG 112: English Composition II	3	
CMP 131: Fundamentals of Programming	3		CMP 128: Computer Science I	3	
Humanities Elective	3		CMP 241: Database Programming	3	
MAT 114: Intro to Data Science	3		MAT 123: Precalculus	4	
MAT 130: Probability & Statistics	4		Social Science Elective	3	
<b>Total:</b>	<b>16</b>		<b>Total:</b>	<b>16</b>	

<b>Second Year-CCM</b>					
<b>Fall Semester</b>	<b>HRS</b>	<b>✓</b>	<b>Spring Semester</b>	<b>HRS</b>	<b>✓</b>
CMP 129: Computer Science II	3		CMP 233: Data Structures & Algorithms	3	
MAT 131: Analytical Geometry & Calculus I	4		MAT 225: Discrete Mathematics	4	
Lab Science Sequence	4		Lab Science Sequence	4	
CMP 262: Data Science Programming	3		Diversity Elective	3	
<b>Total:</b>	<b>14</b>		<b>Total:</b>	<b>14</b>	

<b>Third Year-RCNJ</b>					
<b>Fall Semester</b>	<b>HRS</b>	<b>✓</b>	<b>Spring Semester</b>	<b>HRS</b>	<b>✓</b>
DATA 225: Ethics in Technology	4		DATA 301: Data Visualization	4	
MATH 262: Linear Algebra	4		MATH 370: Applied Statistics	4	
Minor Requirement*	4		Minor Requirement*	4	
Minor Requirement*	4		Minor Requirement*	4	
PATH TS1: Career Pathways 1	GR		PATH TS2: CP 2 // PATH TS3: CP 3	GR	
<b>Total:</b>	<b>16</b>		<b>Total:</b>	<b>16</b>	

<b>Fourth Year-RCNJ</b>					
<b>Fall Semester</b>	<b>HRS</b>	<b>✓</b>	<b>Spring Semester</b>	<b>HRS</b>	<b>✓</b>
CMPS 320: Machine Learning	4		DATA 450: Data Science Capstone Project	4	
CMPS 364: Database Design	4		DATA Elective**	4	
DATA 601: Intro to Data Science (MSDS)	3		Minor Requirement	4	
MATH 570: Applied Statistics <b>OR</b> CMPS 530: Python for Data Science	3		DATA 620: Ethics for Data Science (MSDS)	3	

(MSDS)				
Elective***	2		Elective***	1
<b>Total:</b>	16		<b>Total:</b>	16

<b>Fifth Year-RCNJ (MSDS)</b>					
<b>Fall Semester</b>	<b>HRS</b>	<b>✓</b>	<b>Spring Semester</b>	<b>HRS</b>	<b>✓</b>
MATH 570: Applied Statistics <b>OR</b> CMPS 530: Python for Data Science	3		CMPS 664:Advanced Database and Big Data	3	
MATH 680: Advanced Mathematical Modeling	3		Data Science Elective at 600/700 level	3	
Data Science Elective at 600/700 level	3		DATA 750: Data Science Thesis	3	
Elective	3				
<b>Total:</b>	12		<b>Total:</b>	9	

**Total Credits Required for undergraduate degree: 128 credits\*\*\*\***

**GPA Required for BS in Data Science: 2.0**

**GPA Required for 4+1 Pathway: 3.0**

**WI: Writing Intensive-3 required in the major**

\* As part of their degree requirements, Data Science majors are also required to complete a minor or double major to gain domain knowledge in a particular field, to better contextualize their data studies. Most minor programs require 5-6 courses. Any minor or second major can be selected:

<https://www.ramapo.edu/majors-minors/a-z/>

\*\* DATA elective courses may require pre-requisites outside the program requirements. For example, Math 305 Differential Equations, Math 245 Numerical Analysis, and Math 253 Probability each have Math 122 Calculus II as a pre-requisite. Additionally, Math 253 Probability also allows the option for Math 122 Calculus II to be taken as a co-requisite.

\*\*\* **Two additional electives are required in the 4th year because graduate courses are only 3 credits, instead of the usual 4 for undergraduate courses. Thus, a student must take an additional 3 credits to meet the 128-credit graduation requirement.**

**Total Graduate Credits Required: 30 credits\*\*\*\*\***

**GPA Required for MSDS: 3.0**

\*\*\*\*\*The 9 credits of graduate coursework taken in the fourth year will double count towards both the undergraduate degree requirement of 128 credits as well as the required 30 graduate credits.

*This plan is based on the completion of an Associate of Arts or Associate of Science Degree at County College of Morris encompassing all recommended courses. This plan is subject to change.*

## EXHIBIT “B”: 2+2 Program



### A.S. Computer Science - Data Science Option: → B.S. Data Science

<b>First Year-CCM</b>					
<b>Fall Semester</b>	HRS	✓	<b>Spring Semester</b>	HRS	✓
ENG 111: English Composition I	3		ENG 112: English Composition II	3	
CMP 131: Fundamentals of Programming	3		CMP 128: Computer Science I	3	
Humanities Elective	3		CMP 241: Database Programming	3	
MAT 114: Intro to Data Science	3		MAT 123: Precalculus	4	
MAT 130: Probability & Statistics	4		Social Science Elective	3	
<b>Total:</b>	16		<b>Total:</b>	16	

<b>Second Year-CCM</b>					
<b>Fall Semester</b>	HRS	✓	<b>Spring Semester</b>	HRS	✓
CMP 129: Computer Science II	3		CMP 233: Data Structures & Algorithms	3	
MAT 131: Analytical Geometry & Calculus I	4		MAT 225: Discrete Mathematics	4	
Lab Science Sequence	4		Lab Science Sequence	4	
CMP 262: Data Science Programming	3		Diversity Elective	3	
<b>Total:</b>	14		<b>Total:</b>	14	

<b>Third Year-RCNJ</b>					
<b>Fall Semester</b>	HRS	✓	<b>Spring Semester</b>	HRS	✓
DATA 225: Ethics in Technology	4		DATA 301: Data Visualization	4	
MATH 262: Linear Algebra	4		MATH 370: Applied Statistics	4	
Minor Requirement*	4		Minor Requirement*	4	
Minor Requirement*	4		Minor Requirement*	4	
PATH TS1: Career Pathways 1	GR		PATH TS2: CP 2 // PATH TS3: CP 3	GR	
<b>Total:</b>	16		<b>Total:</b>	16	

<b>Fourth Year-RCNJ</b>					
<b>Fall Semester</b>	HRS	✓	<b>Spring Semester</b>	HRS	✓
CMPS 320: Machine Learning	4		DATA 450: Data Science Capstone Project	4	
CMPS 364: Database Design	4		DATA Elective**	4	
Elective	4		Minor Requirement	4	
Elective	4		Elective	4	
<b>Total:</b>	16		<b>Total:</b>	16	

**Total Credits Required for undergraduate degree: 128 credits**

**GPA Required for BS in Data Science: 2.0**

**WI: Writing Intensive-3 required in the major**



\* As part of their degree requirements, Data Science majors are also required to complete a minor or double major to gain domain knowledge in a particular field, to better contextualize their data studies. Most minor programs require 5-6 courses. Any minor or second major can be selected:

<https://www.ramapo.edu/majors-minors/a-z/>

\*\* DATA elective courses may require pre-requisites outside the program requirements. For example, Math 305 Differential Equations, Math 245 Numerical Analysis, and Math 253 Probability each have Math 122 Calculus II as a pre-requisite. Additionally, Math 253 Probability also allows the option for Math 122 Calculus II to be taken as a co-requisite.

**The table below outlines the course equivalencies from CCM to Ramapo for transfer.**

<b>CCM Course</b>	<b>Ramapo Course</b>
CMP 128: Computer Science I	CMPS 147: Computer Science I
CMP 129: Computer Science II	CMPS 148: Computer Science II
CMP 131: Fundamentals of Programming	CMPS 130: Sci Problem Solving
CMP 233: Data Structures & Algorithms	CMPS 231: Data Structures
CMP 241: Database Programming	INFO 299: Transfer Elective
CMP 262: Data Science Programming	CMPS 240: Data Analytics in Python
Diversity Elective	Fulfills GE Category: Global Awareness
ENG 111: English Composition I	CRWT 102: Critical Reading & Writing II
ENG 112: English Composition II	CRWT 199: Elective Credit
Humanities Elective	Fulfills GE Category: Studies in Arts & Humanities
Lab Science Sequence	Fulfills GE Category: Scientific Reasoning
MAT 114: Intro to Data Science	DATA 101: Intro to Data Science
MAT 123: Precalculus	MATH 110: Precalculus
MAT 130: Probability & Statistics	MATH 108: Elementary Prob & Stats
MAT 131: Analytical Geometry & Calculus I	MATH 121: Calculus I
MAT 225: Discrete Mathematics	MATH 237: Discrete Structures
Social Science Elective	Fulfills GE Category: Social Science Inquiry

***This plan is based on the completion of an Associate of Arts or Associate of Science Degree at County College of Morris encompassing all recommended courses. This plan is subject to change.***