Articulation Agreement

Waukesha County Technical College (WCTC)
School of Business
AAS IT-Data and Analytics Specialist (10-156-3)
to
The Board of Regents of the University of Wisconsin System on behalf of
University of Wisconsin-Milwaukee (UWM)
College of Community Engagement & Professions--School of Information Studies &
College of Letters & Science
BS Data Analytics

Effective Date: 03/01/2024   Next Review Date: 03/01/2029

☒New Agreement   ☐Revised Agreement

Agreement Description and Rationale:
This agreement is entered into by Waukesha County Technical College and University of Wisconsin-Milwaukee to better facilitate the transfer of students who successfully complete an appropriate Associate of Applied Science Data and Analytics Specialist degree to the Bachelor of Science in Data Analytics.

WCTC offers the AAS-Data and Analytics Specialist degree for students interested in careers in data analytics and technology. The graduates from these programs are highly skilled and practicing their skills in industry. Many consider earning a bachelor's degree to further advance their abilities and career. The BS in Data Analytics is designed so that those who have earned an AAS can continue their education and recognizes their previous education and experience in a data analytics and technology field. The BS in Data Analytics is a multidisciplinary degree that allows students the opportunity to pursue analytics electives related to their primary discipline of interest via courses offered in a variety of disciplines, including business, biological sciences, computer science, geography, and sociology, among others.

Admission Requirements/Conditions:
Students must meet all standard UWM admissions requirements to be eligible for participation in this agreement. Information on transfer admissions requirements may be found at transfer.uwm.edu.

Articulation Transfer Agreement Terms:
The terms of this agreement apply to WCTC students who successfully complete the AAS Data and Analytics Specialist degree, meet the conditions set forth herein for UWM's School of Information Studies/College of Letters & Science, and enroll in the BS in Data Analytics.

The Data & Analytics Specialist AAS will transfer to UWM's Data Analytics BS in accordance with the following:
- The WCTC AAS Data & Analytics Specialist degree must be posted on an official transcript in order for this agreement to be applied.
  - Students actively enrolled in the AAS degree and expecting to complete it prior to enrollment may be admitted under the general terms of this agreement, pending receipt of a final, degree-bearing transcript.
  - Without associate degree completion, course-by-course transfer rules will be referenced, and some equivalencies identified in this agreement may no longer apply.
- A minimum of 62 credits earned toward the AAS degree will transfer as stipulated in Appendix A.
- Course equivalencies specified in this articulation agreement are subject to change in the event that either curriculum for the AAS degree or BS Data Analytics program undergoes revision.
- WCTC prefers that students take 804-133 Math & Logic, which transfers to UWM as MATH 111 and meets both Quantitative Literacy Part A (QLA) and Humanities requirements. However, the course does not satisfy the

prerequisite for MATH 211 Survey of Calculus and similar required math courses in the BS Data Analytics program. Students are advised to do one of the following:

- o Take 804-133 Math & Logic at WCTC and complete MATH 105 or higher at UWM after transfer. This option could delay degree progress due to prerequisite structures in the major.
- o Take 804-118 Intermediate Algebra at WCTC and complete a humanities course at UWM after transfer. This option also satisfies QLA at UWM and allows students to start the calculus sequence sooner.
- o Take both 804-133 & 804-118 at WCTC. This option exceeds the credit requirements for the AAS degree, but both courses will transfer to UWM and cover QLA, Humanities GER, & the needed prerequisite for MATH 211, et al.
- Forty-four (44) technical studies credits will transfer as a block of credit and be assigned UWM course equivalencies to meet identified program requirements (see Appendix A).
- Eighteen (18) general education credits will transfer according to existing equivalencies and apply to UWM general education, major, and elective requirements as appropriate (see Appendix A).

All credits applied to associate degree requirements, including credits accepted in transfer or awarded through prior learning assessment, will be recognized by UWM and transfer as if earned at the degree-awarding institution.

Program-to-program transfer courses/credits are accepted only for the UWM program/degree specified in this agreement. A change of major/degree/program may invalidate these courses/credits for transfer unless they are approved within some other transfer agreement for a different major/degree/program at UWM.

Coursework taken in addition to what is required for the associate degree will be evaluated on a course-by-course basis and transferred in accordance with routine UWM transfer policy. A maximum of 72 credits can be transferred from WCTC to UWM. Information on the transferability of specific, non-articulating courses may be found in Transferology (www.transferology.com) or UWM's Transfer Equivalency Database (TED) (ted.uwm.edu). For UWM General Education Requirement (GER) transfer equivalencies, refer to Appendix B.

Graduation Requirements/Policies:
Students must satisfy the following to receive the BS in Data Analytics at UWM:
- Complete at least 120 credits, comprised of the following:
  - o 16 credits of foundations;
  - o 33 credits of core courses;
  - o 24 credits in a specialization area, selected from coursework in business, information science & technology, health, natural science, social science, or geography;
  - o coursework and/or competencies to satisfy all UWM general education requirements (GER);
  - o and enough general electives to reach 120 (approximately 14 credits).
- Under this agreement, students who select a specialization in Information Science & Technology may apply 8 credits in transfer to meet that area's requirements:
  - o 3 cr. INFOST 340
  - o 2 cr. INFOST 491
  - o 3 cr. INFOST 691
  - o For students who choose a different specialization, these 8 credits will apply to general electives.

A transfer course/credit articulation table showing how the Data and Analytics Specialist AAS from WCTC transfers to UWM's Data Analytics BS appears in Appendix A. Some coursework may be combined to meet requirements within the BS major. Also, some courses that ordinarily do not transfer may do so under the terms of this agreement. Without associate degree completion, some coursework/equivalencies outlined in this agreement may not transfer as indicated.

Institutional Commitment:

This agreement is based on curricula in place for the 2023 academic year. The terms of this agreement may be applied to degrees completed prior to 2023 upon individual review to ensure consistency in the curriculum. This agreement is valid for a period of five years. Both WCTC and UWM agree to provide periodic updates in the instance that requirements for either of the programs change. At the end of the effective period, the terms of the agreement will be reviewed, updated as necessary, and continued if agreed upon by both parties.

In the instance either school wishes to end the agreement, 180-day advanced notice is required. Any students who have applied, been admitted, and/or have matriculated while the agreement was active will be allowed to continue under its original terms.

WCTC and UWM will make the terms of this agreement public and may develop marketing materials for its promotion. Each institution will provide advising as appropriate to interested students regarding this agreement. The two institutions agree to provide information necessary to aid in the successful transfer of these students and their academic credits.

Both institutions reserve the right to review and approve marketing materials created for the promotion of this agreement and will adhere to stated standards for the use of their respective names and logos. Furthermore, each institution assumes responsibility for communicating and marketing this agreement to its student population. Links to this agreement may be provided and should be maintained regularly, with notification to the other institution.

Approved by:

The Board of Regents of the University of Wisconsin
System on behalf of
University of Wisconsin-Milwaukee

Waukesha County Technical College

(signature) 2-20-2024
_____
Andrew Daire, Ph.D.,   Date
Provost/Vice Chancellor of Academic Affairs

DocuSigned by:
(signature) 3/7/2024
_____
14A1072F134E489...
Brad Piazza, Ph.D.,   Date
Vice President of Academic Affairs

(signature) 2/23/24
_____
Tina Freiburger, Ph.D.,   Date
Dean, College of Community Engagement &
Professions

DocuSigned by:
Jonathan Koch 3/7/2024
_____
C4F95BDDC624450...
Jon Koch,   Date
Dean, School of Business

(signature) 2/28/2024
_____
Scott Gronert, Ph.D.,   Date
Dean, College of Letters & Science

Official notices regarding this agreement should be sent to:

University of Wisconsin-Milwaukee

Waukesha County Technical College

Chris Head
Assistant Registrar, Transfer Services
P.O. Box 729
Milwaukee, WI 53201-0729
head@uwm.edu
414-229-2754

Margo Leone
Coordinator—Academic Affairs
800 Main Street
Pewaukee, WI 53072
mleone@wctc.edu
262-691-5168

A copy of this agreement will be uploaded to: https://uwm.edu/registrar/students/articulation-agreements/.

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Appendix A: Program-to-Program Transfer Table

Waukesha County Technical College (WCTC)
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The following table outlines a potential transfer scenario, showing how the associate degree curriculum applies to the bachelor's degree and which requirements remain to complete at UWM. To maximize credit transfer, some substitutions may be identified. While every effort is made to maximize credit transfer, lack of alignment between degree programs and levels may require students to exceed 120 credits to meet all graduation requirements. Transfer results will differ based on individual students' transcripts.

Degree Requirement	WCTC Coursework	Cr	UWM Coursework	Cr
Gen Ed Requirements (GER)	See Appendix B for additional WCTC courses that can fulfill GERs			
Oral and Written Comm-Part A	Met w/ C or better in 801-197	--	ENGLISH 102	
Oral and Written Comm-Part B	801-197 Technical Reporting	3	ENGLISH 206 (sub for ENGLISH 205)	
Quantitative Literacy-Part A	804-133 Math and Logic* or	(3)	MATH/PHILOS 111 (also meets HU)	
	804-118 Intermediate Algebra w/ Apps**	4	MATH 105 (prerequisite for MATH 211)	
Quantitative Literacy-Part B			MATH 211, 213, 221, 231, or 208	4
Foreign Language			Two years HS (or two semesters college)	0
Art			Various courses (also see Appendix B)	3
Humanities (6 credits)			Met by ENGLISH 310 in major	--
	804-133 Math & Logic (if selected)		Various courses (also see Appendix B)	3
Natural Science (6 credits)	804-189 Intro Statistics (credits in Found)	--	MTHSTAT 215	
(including one lab)			Various courses (also see Appendix B)	3
Social Science (6 credits)	809-195 Economics	3	ECON 100	
	809-199 Psych of Human Relations	3		
Cultural Diversity			May be met by Art or HU course above	--
Foundations (16 credits)				
Matrices & Applications			MATH 240	3
Survey in Calculus II			MATH 212	4
Statistics	804-189 Intro Statistics	3	MTHSTAT 215	
Computer Literacy 1	Met by AAS degree completion	3	COMPSCI 150	
Computer Literacy 2	Met by AAS degree completion	3	COMPSCI 202	
Major Requirements (33 credits)				
Programming Languages	Met by AAS degree completion	3	BUSADM 432	
			1 more course from list—consult advisor	3
Databases	Met by AAS degree completion	3	COMPSCI 557	
Analytics/Big Data/Data Mining	Met by AAS degree completion	6	BUS ADM 536 & INFOST 582	
Visualization	Met by AAS degree completion	3	INFOST 370	
Statistics (upper-division)			2 courses from list—consult advisor	6
Communication			ENGLISH 310	3
Ethics			1 course from list—consult advisor	3
Capstone			1 course from list—consult advisor	3
Specialization Area Electives				
24 credits in chosen area; some credits may be met in transfer			Area options include business, info sci & tech, health, natural sci, soc sci, &	24

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depending on area chosen.			geography	
General Electives				
	801-136 English Comp 1	3	ENGLISH 101	
	Block credits that may be applied to Info Sci Specialization	3 2 3	INFOST 340 INFOST 491 INFOST 691	
	Additional block credit equivalencies.	1 3 3 3 3 1	BUS ADM 300 BUS ADM 434 COMPSCI 658 INFOST 250 INFOST 410 INFOST X	
TOTAL CREDITS	*Preferred for WCTC curriculum. **Recommended substitution for UWM transfer. Satisfies prerequisite for MATH 211 et al. If 804-133 taken, 804-118 may be added to avoid taking MATH 105 after transfer.	**62**		**62**

Appendix B: University General Education Requirements (GER)

Waukesha County Technical College (WCTC)
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General Education Requirements (GER) give structure to each student's education while providing the student the greatest possible freedom to design an individual academic program. These requirements include two major categories: **competency** and **distribution**.

Competency requirements are designed to assure proficiency in oral and written communication (OWC Parts A & B), quantitative literacy (QL Parts A & B), & foreign languages.

Distribution requirements are designed to provide students with a broad body of knowledge in the areas of the arts, humanities, natural sciences, and social sciences as a foundation for specialization.

The table below outlines the University of Wisconsin-Milwaukee's GER requirements. Note that College of Letters and Science majors must complete GER coursework beyond what is listed here. Some programs/majors will require specific coursework for certain competency and distribution requirements. Consult with an advisor early in your academic career to ensure that you choose the best coursework for your intended program of study.

GER Category	Min. Credits	Fulfilled by
Competency Requirements		
OWC-A	0-3	1. C or higher in ENGLISH 102 or equivalent 2. An appropriate score on the English Placement Test
OWC-B	3	An approved advanced course with a significant written or oral communication component.
QL-A	0-3	1. C or higher on approved math coursework at UWM or in transfer 2. Score of 30 or higher on the Mathematics Placement Test
QL-B	3	An approved course as determined by the major. QL Part B courses make significant use of quantitative tools in the context of other course material.
Foreign Language	0-6	1. Successfully passing two consecutive years of high school-level instruction in a single foreign language, 2. Successfully passing two consecutive semesters of college-level instruction in a single foreign language, or 3. Demonstrating foreign language ability equivalent to two semesters of a single foreign language by earning a satisfactory score on an approved placement, proficiency, departmental, or other examination.
Distribution Requirements		
Arts	3	A course in history, philosophy, theory, or practice of the creative and interpretive arts.
Humanities	6	Two courses from an approved list.
Natural Sciences	6	At least two courses; one must include laboratory or field experience

		illustrating the generation and testing of data and the application of concepts and knowledge to the solution of problems.
Social Sciences	6	Two courses from an approved list.
Cultural Diversity	0-3	As part of the distribution requirements, one course must pertain to the study of the life experiences of African Americans, Latino/Hispanic Americans, American Indians, or Asian Americans.

WCTC School GER Transfer Courses

The following list can be consulted to find WCTC courses that meet UWM GER requirements. This list is not meant to be exhaustive. There may be additional WCTC courses that are transferrable as GER equivalents. Please consult with an advisor; both Transferology (www.transferology.com) and the Transfer Equivalency Database (TED) (ted.uwm.edu) offer searchable databases that indicate GER status.

Competency—OWC-A:

801-223 English Composition 2

Competency—OWC-B:

801-197 Technical Reporting   801-243 Business Writing

Competency—QL-A:

804-115 & 116 College Technical Math 1 & 2   804-196 Trigonometry w/ Apps
804-118 Intermediate Algebra w/ Apps   804-201 Intermediate Algebra
804-133 Math & Logic   804-211 Quantitative Reasoning
804-195 College Algebra w/ Apps   804-212 College Algebra

Competency—QL-B:

804-189 Introductory Statistics   804-198 Calculus 1

Competency—Foreign Language:

   College coursework in a foreign language through the second semester.

Distribution—Arts:

N/A

Distribution—Humanities:

801-198 Speech   809-166 Intro to Ethics
801-204 Intro to Literature   804-133 Math & Logic
801-247 World Literature   809-223 Intro to World Religion

Distribution—Natural Sciences (+ indicates lab credit):

806-114 General Biology+   806-143 College Physics 1+
806-134 General Chemistry+   806-144 College Physics 2+
806-139 Survey of Physics   806-177 General Anatomy & Physiology+

806-178 Life Science Chemistry+   806-189 Basic Anatomy
806-179 Advanced Anatomy & Physiology+   806-197 Microbiology+
806-186 Biochemistry+   806-207 Anatomy & Physiology 1+
806-187 Calculus-Based Physics 1+   806-208 Anatomy & Physiology 2+
806-188 Calculus-Based Physics 2+

Distribution—Social Sciences:

801-196 Oral/Interpersonal Communication   809-196 Intro to Sociology
809-115 Global Cultural Awareness   809-197 Contemporary American Society
809-143 Microeconomics   809-198 Intro to Psychology
809-159 Abnormal Psychology   809-199 Psychology of Human Relations
809-172 Intro Diversity Studies   809-202 Macroeconomics
809-174 Social Problems   809-227 American Government
809-188 Developmental Psychology   809-235 Multicultural America
809-195 Economics   809-245 Blood, Sex, Money, & Power

Cultural Diversity:

809-172 Intro Diversity Studies   809-235 Multicultural America

Appendix C: Sending Institution Curriculum & Transfer Information

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This articulation agreement is based on the following curriculum offered at WCTC as presented in its 2023-24 academic catalog. Common transfer equivalencies are shown as well, indicating how individual courses will transfer from WCTC to UWM without AAS degree completion.

WCTC Curriculum	Cr	Standard UWM Equivalencies
107-119 System Analysis Agile Methods or 107-118 Information Systems Design	3 (4)	INFOST X (Information Studies Elective)
107-137 IT Internship	1	INFOST X
150-137 MS Server	3	INFOST X
150-190 Network Fundamentals or 150-117, 150-175, 150-178	2 (3-4)	INFOST X
152-101 Python Programming or 150-154 Shell Scripting	1 (2)	INFOST X
152-112 Intro to Programming w/ C#	3	INFOST X
152-170 IS Project	4	INFOST X
156-101 .Net Database Programming or 156-117 Big Data Engineering (beg acad yr 2024)	3	INFOST X
156-102 Advanced SQL	3	INFOST X
156-103 Database Administration	3	INFOST X
156-106 Data Warehouse Development	4	INFOST X
156-107 Data Modeling	2	INFOST X
156-108 Intro to Databases & Reporting or 152-115 Database Concepts & SQL	1 (3)	INFOST X
156-109 Intro to SQL or 152-115 Database Concepts & SQL	2 (3)	INFOST X
156-110 Data Visualization & Reporting or 156-104 Data Analysis & Reporting	2 (3)	INFOST X
156-111 Intro to Data Analytics	2	INFOST X
156-112 Predictive Analytics or 156-105 Adv Topics in Database	2 (3)	INFOST X
156-113 Python Data Manipulation	2	INFOST X
801-136 English Composition 1 or 801-223 English Composition 2	3	ENGLISH 101 ENGLISH 102
801-197 Technical Reporting or 801-243 Business Writing	3	ENGLISH 206 ENGLISH 205
804-133 Math & Logic or 804-118, 804-116, 804-195, 804-198	3 (3-4)	MATH/PHILOS 111
804-189 Introductory Statistics	3	MTHSTAT 215
809-195 Economics	3	ECON 100
809-199 Psychology of Human Relations	3	PSYCH XS (Psychology Elective/Soc Sci GER)
890-108 Employment Success	0	TRAN-NO (Not Transferable)
Total Credits	**61**	