



Articulation Agreement

**Waukesha County Technical College (WCTC)
School of Applied Technologies
AAS Electrical Engineering Technology (10-662-1)
to
The Board of Regents of the University of Wisconsin System on behalf of
University of Wisconsin-Milwaukee (UWM)
College of Engineering & Applied Science
BSE Electrical Engineering**

Effective Date: 05/01/2024

Next Review Date: 05/01/2029

New Agreement

Revised Agreement

Agreement Description and Rationale:

This agreement is entered into by Waukesha County Technical College (WCTC) and University of Wisconsin-Milwaukee (UWM) to better facilitate the transfer of students who successfully complete the Associate of Applied Science in Electrical Engineering Technology and transfer to the Bachelor of Science in Engineering with a major in Electrical Engineering.

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 uwm.edu/undergrad-admission/apply/transfer.

In addition, the following conditions will apply:

- A minimum GPA of 2.50 in all math, engineering, and science coursework is required.

Articulation Transfer Agreement Terms:

The terms of this agreement apply to WCTC students who successfully complete the AAS in Electrical Engineering Technology, meet the conditions set forth herein for UWM’s College of Engineering & Applied Science, and enroll in the BSE in Electrical Engineering.

The AAS in Electrical Engineering Technology will transfer to UWM’s BSE in Electrical Engineering in accordance with the following:

- The WCTC Electrical Engineering Technology AAS 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 60 credits earned toward the AAS degree will transfer as stipulated in Appendix A.
- WCTC students will be granted junior status in the College of Engineering and Applied Science at UWM and are guaranteed admission to the Electrical Engineering major.
- Course equivalencies specified in this articulation agreement are subject to change in the event that either curriculum for the AAS degree or Electrical Engineering BSE program undergoes revision.
- Technical coursework within the AAS Electrical Engineering Technology degree will be assigned equivalencies within a block of credits aligned to specific UWM equivalencies. General education coursework will transfer as course-to-course equivalencies.

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:

In addition to meeting all General Education and major requirements, students must satisfy the following to receive the BSE in Electrical Engineering at UWM:

- Students must maintain an average GPA of at least 2.00 in all work attempted at UWM and all courses offered by the College of Engineering and Applied Science.
- Students majoring in Electrical Engineering must maintain an average GPA of at least 2.50 in all 300-level and above courses in Electrical Engineering.
- In order to provide maximum flexibility while preserving the institutional identity of a UWM degree, the College requires residence during:
 1. the last 30 credits or
 2. 45 of the last 60 credits or
 3. any 90 credits of a student's undergraduate career.

A transfer course/credit articulation table showing how the AAS in Electrical Engineering Technology from WCTC transfers to UWM's BSE in Electrical Engineering appears in Appendix A. Some coursework may be combined to meet requirements within the Electrical Engineering BSE. 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 2024 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.

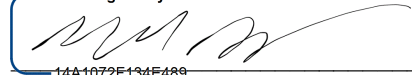
Both institutions reserve the right to review and approve marketing materials created for the promotion of this agreement and will adhere to stated standards for the use of their respective names and logos. Furthermore, each institution assumes responsibility for communicating and marketing this agreement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

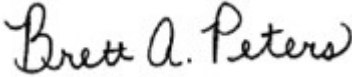
Approved by:

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

Waukesha County Technical College


Andrew Daire, Ph.D., Date **5/1/2024**
Provost/Vice Chancellor of Academic Affairs

DocuSigned by:

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Brad Piazza, Ph.D., Date **5/13/2024**
Provost/Vice President of Learning


Brett Peters, Ph.D., Date
Dean, College of Engineering & Applied Science

DocuSigned by:

39E83A63A0854F9...
Michael Shiels, Date **5/14/2024**
Dean, School of Applied Technologies

Official notices regarding this agreement should be sent to:

University of Wisconsin-Milwaukee

Waukesha County Technical College

Chris Head
Assistant Director of 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/>.

Appendix A: Program-to-Program Transfer Table

Waukesha County Technical College (WCTC)
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The following table outlines a typical 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
GER Requirements	See Appendix B for additional WCTC courses that can fulfill GERs			
Oral and Written Comm-Part A	801-223 English Composition 2*	3	ENGLISH 102	
Oral and Written Comm-Part B			ENGLISH 310 (also meets HU below)	3
Quantitative Literacy-Part A	Waived by completion of Math req	--		
Quantitative Literacy-Part B	Met by Math requirement below	--		
Foreign Language			Two years HS (or two semesters college)	--
Art			Various courses (see Appendix B)	3
Humanities (6 credits)			ENGLISH 310 (also meets OWCB)	--
	801-198 Speech*	3	COMMUN 103	
Natural Science (6 credits)			Met by Chem req	--
(including one lab)	Met by Physics req	--		
Social Science (6 credits)	809-199 Psych of Human Relations	3		
	809-196 Intro to Sociology	3	SOCIOL 101	
Cultural Diversity			Art course with diversity content	--
Electrical Engineering Major				
Professional Seminar	Met by AAS degree completion	1	EAS 200	
Fund of Electrical Engineering	Met by AAS degree completion	3	ELECENG 101	
Intro Embedded Computing I	Met by AAS degree completion	3	ELECENG 140	
Intro Embedded Computing II	Met by AAS degree completion	4	ELECENG 240	
Electrical Circuits I	Met by AAS degree completion	3	ELECENG 301	
Signals & Systems			ELECENG 310	3
Electronics I	Met by AAS degree completion	4	ELECENG 330	
Random Signals & Systems			ELECENG 420	3
Capstone Design I			ELECENG 596	3
Capstone Design II			ELECENG 597	2
Mini Tracks—Choose One				
Embedded Systems I & II			ELECENG 340 & 440	(7)
Electrical Circuits II & Electronics II	Met by AAS degree completion	4	ELECENG 305 & ELECENG 335	4
Electromagnetic Fields & Electromech Energy Conversion			ELECENG 361 & 362	(7)
Technical Electives				
Chosen from approved lists			Upper-div Engineering coursework	31
Math Requirements				

Calc & Analytic Geometry I	804-198 Calculus 1	4	MATH 231	
Calc & Analytic Geometry II	804-156 Calculus 2	4	MATH 232	
Calc & Analytic Geometry III			MATH 233	4
Analytical Methods in Engineer			ELECENG 234	4
Chemistry Requirement				
General Chemistry			CHEM 105 or 102	5
Physics Requirement				
Calculus-based Physics I w/ lab	806-187 Calc Based Physics 1	3	PHYSICS 209 & 214	
Calculus-based Physics II w/ lab			PHYSICS 210 & 215	5
General Electives				
	Remaining technical coursework	15		
TOTAL CREDITS	*Recommended substitution.	60		70

Appendix B: University General Education Requirements (GER)

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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
801-204 Intro to Literature

801-243 Business Writing

Competency—QL-A:

804-115 & 116 College Technical Math 1 & 2
804-118 Intermediate Algebra w/ Apps
804-133 Math & Logic
804-195 College Algebra w/ Apps

804-196 Trigonometry w/ Apps
804-201 Intermediate Algebra
804-211 Quantitative Reasoning
804-212 College Algebra

Competency—QL-B:

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
801-204 Intro to Literature
801-247 World Literature

804-133 Math & Logic
809-166 Intro to Ethics
809-223 Intro to World Religion

Distribution—Natural Sciences (+ indicates lab credit):

806-187 Calculus-Based Physics 1+

806-188 Calculus-Based Physics 2+

Distribution—Social Sciences:

102-100 Contemporary Business
504-101 Intro to Criminal Justice Studies
520-100 Intro to Human Services
520-105 Understanding Diversity
801-196 Oral/Interpersonal Communication
809-115 Global Cultural Awareness
809-143 Microeconomics
809-159 Abnormal Psychology
809-172 Intro Diversity Studies
809-174 Social Problems
809-188 Developmental Psychology

809-195 Economics
809-196 Intro to Sociology
809-197 Contemporary American Society
809-198 Intro to Psychology
809-199 Psychology of Human Relations
809-202 Macroeconomics
809-227 American Government
809-235 Multicultural America
809-245 Blood, Sex, Money, & Power
809-287 Prin of Macroeconomics

Cultural Diversity:

520-105 Understanding 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
605-118 Digital Electronics I	2	TRAN-FRE X (general elective)
605-119 Digital Electronics II	2	TRAN-FRE X
605-126 Industrial Systems	3	TRAN-FRE X
605-148 Data Acquisition	3	TRAN-FRE X
605-182 Microcontrollers	3	TRAN-FRE X
605-187 Electronic Data Communications	3	TRAN-FRE X
662-102 DC Circuit Analysis	4	TRAN-FRE X
662-104 AC Circuit Analysis	4	TRAN-FRE X
662-108 Linear Circuit Analysis	3	TRAN-FRE X
662-190 Electronic Circuits I	4	TRAN-FRE X
662-191 Electronic Circuits II	4	TRAN-FRE X
663-104 Programming for Electronics	1	TRAN-FRE X
663-106 Electronic Fabrication I	1	TRAN-FRE X
801-136 English Composition 1 or 801-223 English Composition 2	3	ENGLISH 101 ENGLISH 102
801-196 Oral/Interpersonal Communication or 801-198 Speech	3	COMMUN 105 COMMUN 103
804-198 Calculus 1	4	MATH 231
804-156 Calculus 2	4	MATH 232
806-187 Calculus Based Physics 1	2	PHYSICS 209
	1	PHYSICS 214
809-196 Intro to Sociology	3	SOCIOL 101
809-199 Psychology of Human Relations or 809-198 Intro to Psychology	3	PSYCH XS (Psychology elective/SS GER) PSYCH 101
Total Credits	60	