Engineering Technology Credit Transfer:
NWTC Associate Degree to UWGB Bachelor's Degree

In accordance with the University of Wisconsin System guidelines for articulation agreements between UW System institutions and Wisconsin Technical College System (WTCS) districts, the following associates programs at Northeast Wisconsin Technical College (NWTC) will count for significant block credit transfers into the Mechanical, Electrical, and Environmental Engineering Technology programs at UW-Green Bay (UWGB). Each will be discussed separately with material required by the AIS 6.2 guidelines for developing program-to-program articulation agreements. Students are required to successfully complete all UWGB degree requirements in order to earn a UWGB degree.

1. UW-Green Bay Mechanical Engineering Technology BS

Presented below is the curriculum for UWGB's Mechanical Engineering Technology Program.

UWGB Mechanical Engineering BS requirements

(without general education and graduation requirements, unless fulfilled by degree requirements)

<u>Support Group (32-37 credits)</u>	
ET 101	Fundamentals of Engineering Technology (2 cr)
ET 130	Basic Electrical Circuits I (3 cr)
either all	
CHEM 211, 213	Principles of Chemistry I Lecture and Lab (5 cr)
CHEM 212, 214	Principles of Chemistry II Lecture and Lab (5 cr)
or	
ET 206	Chemistry for Engineers (5cr)
MATH 202	Calculus & Analytic Geometry I
MATH 203	Calculus & Analytic Geometry II
MATH 260	Introductory Statistics (4 cr)
PHYSICS 103 or 201	Fundamentals of Physics I (5 cr) or Principles of Physics I – either algebra or calculus based
PHYSICS 104 or 202	Fundamentals of Physics II (5 cr) or Principles of Physics II – either algebra or calculus based

<u>Fundamentals Group (24 credits)</u>	
ENGR 213	Mechanics I: Statics (3 cr)
ENGR 214	Mechanics II: Dynamics (3 cr)
ET 105	Fundamentals of Drawing (3 cr)
ET 106	Parametric Modeling I (2 cr)
ET 116	Basic Manufacturing Processes (3 cr)
ET 118	Fluids I (2 cr)
ET 207	Parametric Modeling II (2cr)
ET 220	Mechanics of Materials (3 cr)
ET 221	Machine Components (3 cr)

<u>Advanced Study Group (28 credits)</u>	
CHEM 320/PHYSICS 320	Thermodynamics & Kinetics (3 cr)
ENGR 301	Engineering Materials (4 cr)
ET 308	Finite Element Analysis (3 cr)
ET 318	Fluids II (2 cr)
ET 322	Design Problems (3 cr)
ET 324	Motors & Drives (3 cr)
ET 360	Project Management (3 cr)

ET 390 Mechatronics (4 cr)

One of

ET 400 Co-op/Internship in Engineering Technology (3 cr)

ET 410 Capstone Project (3 cr)

A. NWTC Mechanical Design Technology 10-606-1 Associate's Degree

Rationale for how programs are related: The Associates program in Mechanical Design Technology is a good fit for the fundamentals group of courses in UW-Green Bay's Mechanical Engineering Technology (MET) program. Students completing the associate's degree will meet the desired learning outcomes for some of the fundamentals, supporting, and advanced courses in UWGB's BS MET degree. Presented below are the curriculum for NWTC's Associate's program, the array of courses in the UWGB program that the Associate's program will fulfill in a block transfer, and recommendations for students pursuing this completion route. Students are required to successfully complete all UWGB degree requirements in order to earn a UWGB degree.

Proposed Articulated Block of Courses

Note that the two lists below, NWTC Associate's degree requirement and block list of classes that the associate's will fulfill, are not equivalent course lists. The NWTC list is the required course list for the associate's degree and the UWGB list is the fundamentals and supporting course block that the NWTC degree will fulfill.

NWTC Mechanical Design Technology Associate

Course #	Course name	Credits
10-103-131	Micro: Excel-Intro	1
10-606-111	Mechanical Design-Exploring	1
10-606-116	CAD-Intro	1
10-606-119	Sketching-Technical	2
10-606-210	Solidworks Fund and Drawing	3
10-606-211	Mech AutoCAD Fund	2
10-801-136	**English Composition I**	**3**
10-804-118	**Interm. Algebra w Apps**	**4**
10-890-101	College 101	1
10-442-153	Prototype Metal Fabrication	2
10-606-213	CAD-Auxillary & Flat Pattern	2
10-606-214	Fabrication & Assembly	4
10-614-204	Additive Manufacturing	1
10-804-196	**Trigonometry w Apps**	**3**
10-806-154	General Physics 1	4
10-420-173	Mechanical Design – CNC	2
10-606-135	Machine Members Strength	5
10-606-158	SW Sheetmetal, Weldment...	3
10-606-159	Materials Science	3
10-606-212	CAD-ECD	1
10-620-100	Fluids 1: Basic Pneumatics	1
10-620-101	Fluids 2: Basic Hydraulics	1
10-620-165	Fluids 3: Inter Hydraulics	1
10-664-100	Automation 1: Control Logic	1
10-606-141	Design Problems	3
10-606-143	Mechanisms	3
10-606-215	SolidWorks Simulation	2
10-801-196	**Oral/Interpersonal Comm**	**3**
10-809-172	**Intro. to Diversity Studies**	**3**
10-809-199	**Psych of Human Relations**	**3**
		69

UWGB Courses

Course #	Course name	Credits
ET 101	Fund. of ET	2
ET 105	Fund. Of Drawing	3
ET 106	Parametric Model I	2
ET 116	Basic Man. Processes	3
ET 118	Fluids I	2
ET 130	Basic Elec. Circuits	3
ET 207	Parametric Model. II	2
ET 220	Mechanics of Materials	3
ET 221	Machine components	3
ET 322	Design Problems	3
ENGR 301	Engineering Materials	4
PHYSICS 103	Fund. of Physics I	5
Social Science Gen. Ed.		**3**
First Year Seminar		3
Ethnic Studies		**3**
ENG COMP 100 (English Competency)		**3**
MATH 104 (Math Competency)		**4**
Communications		**3**
Elective Credit Block		15
		69

Direct Course Equivalent

General Education Course

Recommendations for Students:
For NWTC students planning to pursue a BS in Engineering Technology, the following courses and their UWGB equivalents are recommended.

Course	NWTC #	credits		UWGB #	credits
Calculus 1	10-804-198	4	=	MATH 202, Calculus & Analytic Geo I	4
Calculus 2	10-804-181	4	=	MATH 203, Calculus & Analytic Geo II	4
Chemistry	10-806-135	5	=	CHEM 211/213 Princ Chem I Lec/Lab	5

Courses Still Needed at UWGB

Course	Credits
ENGR 213, Mechanics I: Statics	3
ENGR 214, Mechanics II: Dynamics	3
ET 206, Chem for Engineers	5
OR all of CHEM 211/213 and 212/214	10
MATH 202, Calculus and Analytic Geometry I	4
MATH 203, Calculus and Analytic Geometry II	4
MATH 260, Introductory Statisics	4
PHYSICS 104, Fundamentals of Physics II	5
Remaining Advanced Study Group	21

Remaining gen eds, minimum: 3cr Fine Arts, 3cr Social Science (not PSYCH), 6 crs Humanitites, 3 crs Biological Science, 3 crs Sustainability Perspective, 3 cr Global Culture, 3 crs Quantitative Literacy (use MATH 202), 3 crs. Lower Level Writing Emphasis, 6 credits Upper Level Writing Emphasis (taken through major courswork), Capstone (use ET 400 or 410)

B. NWTC Manufacturing Engineering Technology Associate's Degree 10-623-3

Rationale for how programs are related: The Associate's program in Manufacturing Engineering Technology is a good fit for the fundamentals group of courses in UW-Green Bay's Mechanical Engineering Technology (MET) program. Students completing the associate's degree will meet the desired learning outcomes for some of the fundamentals, supporting, and advanced courses in UWGB's BS MET degree. Presented below are the curriculum for NWTC's Associate's program, the array of courses in the UWGB program that the Associate's program will fulfill in a block transfer, and recommendations for students pursuing this completion route. The UWGB Mechanical Engineering Technology curriculum is given under 1A (previous section) of this document. Students are required to successfully complete all UWGB degree requirements in order to earn a UWGB degree.

Proposed Articulated Block of Courses

Note that the two lists below, NWTC Associate's degree requirement and block list of classes that the associate's will fulfill, are not equivalent course lists. The NWTC list is the required course list for the associate's degree and the UWGB list is the fundamentals and supporting course block that the NWTC degree will fulfill.

NWTC Manufacturing Engineering Technology Associate			**UWGB Courses**		
Course #	**Course name**	**Credits**	**Course #**	**Course name**	**Credits**
10-623-170	Engin. Materials	3	ET 101	Fund. of Engin. Tech	2
10-801-136	**English Comp. 1**	**3**	ET 105	Fund. of Drawing	3
10-804-197	**Coll. Algebra & Trig.**	**5**	ET 106	Parametric Model. I	2
10-806-135	College Chemistry	5	ET 116	Basic. Manu. Proc.	3

10-890-101	College 101	1
10-606-113	CAD	2
10-620-170	Intro. Robotics	1
10-623-171	Polymer Comp. Proc.	3
10-623-175	Casting & Joining Proc.	3
10-801-198	**Speech**	**3**
10-804-198	**Calculus 1**	**4**
10-623-166	Man. Eng. Internship	1
10-420-170	Mat. Removal/Forming	3
10-606-126	Geo. Dimen./Toleran.	2
10-606-157	Solidworks Fund/Draw.	2
10-806-286	Calc Based Physics	5
10-809-172	**Intro. Diversity Studies**	**3**
10-809-198	**Into. Psychology**	**3**
10-420-168	Comp. Aided Manu.	3
10-623-167	Engin. Economy	2
10-623-169	Lean. Man. Systems 1	2
10-623-173	Engin. Materials	3
10-664-102	Automation 3	1
10-664-103	Automation 4	1
10-664-104	Automation 5	1
10-804-181	**Calculus 2**	**4**
		69

ET 206	Chemistry for Eng.	5
ET 220	Mech. of Mats.	3
ET 221	Machine Comp.	3
ENGR 301	Engineering Materials	4
MATH 104 (Math Competency)		**4**
MATH 202	**Calculus & An Geo I**	**4**
MATH 203	**Calculus & An Geo II**	**4**
PHYSICS 103	Fund. of Physics I	5
First Year Seminar		3
Ethnic Studies Gen. Ed.		**3**
Social Science Gen. Ed.		**3**
ENG COMP 100 (English Competency)		**3**
Communications		**3**
Elective Credit Block		12
		69

Direct Course Equivalent

General Education Course

Recommendations for Students:

For NWTC students planning to pursue a BS in Engineering Technology, the following courses and their UWGB equivalents are recommended.

Course	NWTC #	credits		UWGB #	credits
Basic Elec. Circuits 1	10-660-104	1	=	ET 130, Basic Electrical Circuits I	3
and	10-660-105	1			
and	10-660-107	1			
Parametric Model. 2	10-606-158	3	=	ET 207, Param. Model II + Elective	3
Fluids 1	10-620-100	1	=	ET 118, Fluids I + Elective	3
and	10-620-101	1			
and	10-620-165	1			

Courses Still Needed at UWGB

Course	Credits
ENGR 213, Mechanics I: Statics	3
ENGR 214, Mechanics II: Dynamics	3
ET 118, Fluids I	2
ET 130, Basics Electrical Circuits I	3
ET 207, Parametric Modeling II	2
MATH 260, Introductory Statistics	4
PHYSICS 104, Fundamentals of Physics II	5
Remaining Advanced Study Group	24

Remaining gen eds, minimum: 3cr Fine Arts, 3 crs Social Science (not PSYCH), 6 crs Humanities, 3 crs Biological Science, 3 crs Sustainability Perspective, 3 crs Global Culture, 3 crs. Lower Level Writing Emphasis, 6 credits Upper Level Writing Emphasis (taken through major courswork), Capstone (use ET 400 or 410)

2. UW-Green Bay Electrical Engineering Technology BS

Presented below is the curriculum for UWGB's Electrical Engineering Technology Program.

UWGB Electrical Engineering BS requirements

(without general education requirements, unless fulfilled by degree requirements)

Support Group (20 credits)	
ET 101	Fundamentals of Engineering Technology (2 cr)
MATH 202	Calculus & Analytic Geometry I (4 cr)
MATH 203	Calculus & Analytic Geometry II (4 cr)
PHYSICS 103 or 201	Fundamentals of Physics I or Principles of Physics I (5 cr) – either algebra or calculus based
PHYSICS 104 or 202	Fundamentals of Physics II or Principles of Physics II (5 cr)- either algebra or calculus based

Fundamentals Group (29 credits)	
ET 105	Fundamentals of Drawing (3 cr)
ET 130	Basic Electrical Circuits I (3 cr)
ET 131	Basic Electrical Circuits II (3 cr)
ET 142	Introduction to Programming (3 cr)
ET 150	Codes, Safety, and Standards (2 cr)
ET 232	Semiconductor Devices (3 cr)
ET 233	Linear Circuits (3 cr)
ET 240	Microcontrollers & Programmable Logic Controllers (3 cr)
ET 250	Signals and Systems (3 cr)
ET 311	Digital Electronics (3 cr)

Advanced Study Group (31 credits)	
ET 324	Motors and Drives (3 cr)
ET 340	Advanced PLCs (3 cr)
ET 342	Supervisory Control and Data Acq (3 cr)
ET 344	Human Machine Interface (3 cr)
ET 346	Electric Power Systems (3 cr)
ET 348	Electromagnetic Fields and Applications (3 cr)
ET 350	Data Communication and Protocols (3 cr)
ET 360	Project Management (3 cr)
ET 390	Mechatronics (4 cr)
One of	
ET 400	Co-op/Internship in Engineering Technology (3 cr)
ET 410	Capstone Project (3 cr)

A. NWTC Automation Engineering Technology Associate's Program 10-664-1

Rationale for how programs are related: The Associate's program in Automation Engineering Technology is a good fit for the fundamentals group of courses in UW-Green Bay's Electrical Engineering Technology (ElecET) program. Students completing the associate's degree will meet the desired learning outcomes for some of the fundamentals, supporting, and advanced courses in UWGB's BS ElecET degree. Presented below are the curriculum for NWTC's Associate's program, the array of courses in the UWGB program that the Associate's program will fulfill in a block transfer, and recommendations for NWTC students pursuing this completion route. Students are required to successfully complete all UWGB degree requirements in order to earn a UWGB degree.

Proposed Articulated Block of Courses

Note that the two lists below, NWTC Associate's degree requirement and block list of UWGB classes that the Associate's will fulfill, are not equivalent course lists. The NWTC list is the required course list for the Associate's degree and the UWGB list is the fundamentals and supporting course block that the NWTC degree will fulfill.

NWTC Automation Eng. Technology Associate

Course #	Course name	Credits
10-620-100	Fluids 1	1
10-620-101	Fluids 2	1
10-620-140	Mach. Wiring & Safety	1
10-660-104	DC 1	1
10-660-105	DC 2	1
10-664-100	Automation 1	1
10-664-101	Automation 2	1
10-801-196	**Oral/Interpersonal Comm**	**3**
10-804-118	**Interm Alg. w Apps.**	**4**
10-890-101	College 101	1
	Elective	1
10-660-101	Digital 1	1
10-660-107	AC 1: Properties	1
10-660-108	AC 2: Reactance	1
10-664-102	Automation 3	1
10-664-103	Automation 4	1
10-664-104	Automation 5	1
10-801-136	**English Comp. 1**	**3**
10-804-196	**Trig w Apps.**	**3**
10-806-143	Coll. Physics 1	3
	Elective	1
10-605-157	Power Elec. 1	1
10-605-158	Power Elec. 2	1
10-606-116	CAD-Intro	1
10-606-212	CAD-ECD	1
10-620-159	Power Elec. 3	1
10-620-161	Power Electricity 1	1
10-620-162	Power Electricity 2	1
10-664-105	Automation 6	1
10-664-151	Automation 8	1
10-664-152	Automation 9	1
10-664-160	Control 1	1
10-664-161	Control 2	1
10-664-162	Control 3	1
10-664-170	Safety Dev. And App.	1
10-620-170	Intro. Robotics	1
10-620-172	Robotic Vision Sys.	1

UWGB Courses

Course #	Course name	Credits
ET 101	Fund. of Engin. Tech.	2
ET 105	Fund. of Drawing	3
ET 130	Basic Elec. Circuits I	3
ET 131	Basic Elec. Circuits II	3
ET 142	Intro. To Program.	3
ET 150	Codes, Safety, Stand.	2
ET 232	Semiconductor Dev.	3
ET 240	Microcon. and PLCs	3
ET 250	Signals and Systems	3
ET 311	Digital Electronics	3
ET 324	Motors and Drives	3
ET 340	Advanced PLC's	3
ET 344	Human Machine Interface	3
PHYSICS 103	Fund. of Physics I	5
Social Sc. Gen. Ed.		**3**
First Year Seminar		3
Ethnic Studies Gen. Ed.		**3**
ENG COMP 100 (English Competency)		**3**
MATH 104 (Math Competency)		**4**
Communications		**3**
Elective Credit Block		1
		62

10-664-150	Automation 7	1	
10-664-153	Automation 10	1	
10-664-163	Control 4	1	
10-664-164	Control 5	1	
10-664-165	Control 6	1	
10-664-189	Automation Sys. Int.	3	
10-809-172	**Intro. Diversity Study**	**3**	
10-809-198	**Intro Psychology**	**3**	**Direct Course Equivalent**
		62	General Education Course

Recommendations for Students:
For NWTC students planning to pursue a BS in Engineering Technology, the following courses and their UWGB equivalents are recommended.

Course	NWTC #	credits		UWGB #	credits
Calculus 1	10-804-198	4	=	MATH 202, Calculus & An Geo I	4
Calculus 2	10-804-181	4	=	MATH 203, Calculus & An Geo II	4
Linear Circuits	10-605-160	1	=	ET 233, Linear Circuits	3
and	10-605-161	1			
and	10-605-162	1			

Courses Still Needed at UWGB

Course	Credits
ET 233, Linear Circuits	3
MATH 202, Calculus & Analytic Geometry I	4
MATH 203, Calculus & Analytic Geometry II	4
PHYSICS 104, Fundamentals of Physics II	5
Advanced study group	22

Remaining gen eds, minimum: 3cr Fine Arts, 3 crs Social Science (not PSYCH), 6 crs Humanities, 3 crs Biological Science, 3 crs Sustainability Perspective, 3 crs Global Culture, 3crs Quantitative Literacy (use MATH 202), 3 crs. Lower Level Writing Emphasis, 6 credits Upper Level Writing Emphasis (taken through major courswork), Capstone (use ET 400 or 410)

B. NWTC Electro-Mechanical Technology Associate's Program 10-620-1

Rationale for how programs are related: The Associate's program in Electro-Mechanical Technology is a good fit for the fundamentals group of courses in UW-Green Bay's Electrical Engineering Technology (ElecET) program. Students completing the associate's degree will meet the desired learning outcomes for some of the fundamentals, supporting, and advanced courses in UWGB's BS ElecET degree. Presented below are the curriculum for NWTC's Associate's program, the array of courses in the UWGB program that the Associate's program will fulfill in a block transfer, and recommendations for students pursuing this completion route. The curriculum for UWGB's Electrical Engineering Technology Program is given under 2A (above). Students are required to successfully complete all UWGB degree requirements in order to earn a UWGB degree.

Proposed Articulated Block of Courses

Note that the two lists below, NWTC Associate's degree requirement and UWGB's block list of classes that the Associate's will fulfill, are not equivalent course lists. The NWTC list is the required course list for the Associate's degree and the UWGB list is the fundamentals and supporting course block that the NWTC degree will fulfill.

NWTC Electro-Mechanical Technology Associate

Course #	Course name	Credits
10-442-150	Machine Fab. 1	1
10-620-100	Fluids 1: Pneumatics	1
10-620-101	Fluids 2: Hydraulics	1
10-620-165	Fluids 3: Inter Hydraulics	1
10-660-104	DC 1: Intro.	1
10-660-105	DC 2: Circuits	1
10-664-100	Automation 1	1
10-664-101	Automation 2	1
10-801-196	**Oral/Interpersonal Comm**	**3**
10-804-118	**Interm Alg w Apps**	**4**
10-890-101	College 101	1
10-420-171	Machine Tool Proc. 1	1
10-420-172	Mach. Tool Proc. 2	1
10-442-151	Mach. Fabrication 2	1
10-620-140	Mach. Wiring and Safety	1
10-660-101	Digital 1: Logic	1
10-660-107	AC 1: Properties	1
10-660-108	AC 2: Reactance	1
10-664-102	Automation 3: PLC	1
10-664-103	Automation 4: PLC	1
10-664-104	Automation 5: PLC	1
10-804-196	**Trig w Apps.**	**3**
10-806-143	College Physics	3
10-605-157	Power Electronics 1	1
10-605-158	Power Electronics 2	1
10-620-121	Mechanics 1: Basic	1
10-620-122	Mechanics 2: Inter.	1
10-620-123	Mechanics 3: Systems	1
10-620-159	Power Electronics 3	1
10-620-161	Power Electricity 1	1
10-620-162	Power Electricity 2	1
10-664-105	Automation 6	1
10-664-151	Automation 8	1
10-664-160	Control 1: Discrete	1
10-664-161	Control 2: Process	1
10-664-162	Control 3: Motion	1
10-664-170	Safety Dev. and Apps.	1
10-801-136	**English Comp. 1**	**3**
10-620-105	Rigging Systems 1	1
10-620-166	Fluids 4: Adv. Hydraulics	1
10-620-170	Intro. Robotics	1
10-620-172	Robotic Vision Systems	1
10-620-189	Mach. Int. Techniques	3
10-664-163	Control 4: Drive Perf.	1
10-664-164	Control 5: Servo Sys.	1
10-664-165	Control 6: Servo Sys.	1
10-809-172	**Intro. Diversity Studies**	**3**
10-809-198	**Intro Psychology**	**3**
		65

UWGB Courses

Course #	Course name	Credits
ET 101	Fund. of Eng. Tech.	2
ET 105	Fund. of Drawing	3
ET 130	Basic Elec. Circuits I	3
ET 131	Basic Elec. Circuits II	3
ET 142	Intro. to Programming	3
ET 150	Codes, Safety, Stand.	2
ET 232	Semiconductor Dev.	3
ET 240	Microcon. and PLCs	3
ET 250	Signals and Sys.	3
ET 311	Digital Electronics	3
ET 324	Motors and Drives	3
ET 344	Human Machine Interface	3
ET 346	Electric Power System	3
PHYSICS 103	Fund. of Physics	5
First Year Seminar		3
Social Sc. Gen. Ed.		**3**
Ethnic Studies Gen. Ed.		**3**
ENG COMP 100 (English Competency)		**3**
MATH 104 (Math Competency)		**4**
Communications		**3**
Elective Credit Block		4
		65

Direct Course Equivalent

General Education Course

Recommendations for Students:
For NWTC students planning to pursue a BS in Engineering Technology, the following courses and their UWGB equivalents are recommended.

Course	NWTC #	credits		UWGB #	credits
Calculus 1	10-804-198	4	=	MATH 202, Calculus & Analytic Geo I	4
Calculus 2	10-804-181	4	=	MATH 203, Calculus & Analytic Geo II	4
Linear Circuits	10-605-160	1	=	ET 233, Linear Circuits	3
and	10-605-161	1			
and	10-605-162	1			

Courses Still Needed at UWGB

Course	Credits
ET 233, Linear Circuits	3
MATH 202, Calculus & Analytic Geometry I	4
MATH 203, Calculus & Analytic Geometry II	4
PHYSICS 104, Fundamentals of Physics II	5
Remaining Advanced Study Group	22

Remaining gen eds, minimum: 3cr Fine Arts, 3 crs Social Science (not PSYCH), 6 crs Humanities, 3 crs Biological Science, 3 crs Sustainability Perspective, 3 crs Global Culture, 3crs Quantitative Literacy (use MATH 202), 3 crs. Lower Level Writing Emphasis, 6 credits Upper Level Writing Emphasis (taken through major courswork), Capstone (use ET 400 or 410)

C. NWTC Electrical Engineering Technology Associate's Program (transfer track)

Rationale for how programs are related: The NWTC Associate's program in Electrical Engineering Technology (transfer track) is a good fit for the fundamentals group of courses in UW-Green Bay's Electrical Engineering Technology (ElecET) program. Students completing the associate's degree will meet the desired learning outcomes for some of the fundamentals, supporting, and advanced courses in UWGB's BS MET degree. Presented below are the curriculum for NWTC's Associate's program, the array of courses in the UWGB program that the Associate's program will fulfill in a block transfer, and recommendations for students pursuing this completion route. The curriculum for UWGB's Electrical Engineering Technology Program is given under 2A (above). Students are required to successfully complete all UWGB degree requirements in order to earn a UWGB degree.

Proposed Articulated Block of Courses

Note that the two lists below, NWTC Associate's degree requirement and block list of classes that the Associate's will fulfill, are not equivalent course lists. The NWTC list is the required course list for the Associate's degree and the UWGB list is the fundamentals and supporting course block that the NWTC degree will fulfill.

NWTC Electrical Eng. Technology Associate – **Transfer Track**			**UWGB Courses**		
Course #	**Course name**	**Credits**	**Course #**	**Course name**	**Credits**
10-620-140	Mach. Wiring and Safety	1	ET 101	Fund. of Eng. Tech.	2
10-660-101	Digital 1: Logic	1	ET 105	Fund. of Drawing	3
10-660-102	Digital 2: Sequential	1	ET 130	Basic Elec. Circuits I	3
10-660-103	Digital 3: Registers	1	ET 131	Basic Elec. Circuits II	3
10-660-104	DC 1: Intro.	1	ET 142	Intro. to Program.	3

10-660-105	DC 2: Circuits	1
10-660-106	DC 3: Cir. Theorem	1
10-801-136	**English Comp. 1**	**3**
10-804-196	**Trig. w Apps.**	**3**
10-809-199	**Psychology of Human Rel.**	**3**
10-890-101	College 101	1
10-660-107	AC 1: Properties	1
10-660-108	AC 2: Reactance	1
10-660-109	AC3: RLC Circuits	1
10-660-110	Electronics 1	1
10-660-111	Electronics 2	1
10-660-112	Electronics 3	1
10-660-113	Digital 4: ALU	1
10-660-114	Digital 5: Characteristics	1
10-801-197	**Technical Reporting**	**3**
10-804-195	**Coll. Alg. w Apps.**	**3**
10-806-143	Coll. Physics 1	3
10-605-160	Linear Electronics 1	1
10-605-161	Liners Electronics 2	1
10-605-162	Linear Electronics 3	1
10-605-163	Micro 1: Intro	1
10-605-164	Micro. 2 Technique	1
10-605-165	Micro. 3 Interfaces	1
10-605-170	Datacomm. 1	1
10-605-171	Datacom. 2	1
10-605-172	Datacomm. 3	1
10-662-112	DC/AC 1	3
10-809-172	**Intro. Diversity Studies**	**3**
10-804-198	**Calculus 1**	**4**
10-605-169	Elec. Design Int.	3
10-620-161	Power Electricity 1	1
10-620-162	Power Electricity 2	1
10-662-124	Elec. Circuit Anal.	3
10-809-195	**Economics**	**3**
10-804-181	**Calculus 2**	**4**
10-664-102	Automation 3: PLC	1
10-664-103	Automation 4: PLC	1
10-664-104	Automation 5: PLC	1
		71

ET 150	Codes, Safety, Stand.	2
ET 232	Semiconductor Dev.	3
ET 233	Linear Circuits	3
ET 240	Microcon. and PLCs	3
ET 250	Signals and Sys.	3
ET 311	Digital Electronics	3
ET 350	Data Com & Protocol	3
PHYSICS 103	Fund. of Physics I	5
MATH 202	**Calculus & An Geo I**	**4**
MATH 203	**Calculus & An Geo II**	**4**
First Year Sem.		3
Social Sc. Gen. Ed.		**3**
Social Sc. Gen. Ed.		**3**
Ethnic Studies Gen. Ed.		**3**
ENG COMP 100 (English Competency)		**3**
MATH 104 (Math Competency)		**4**
Communications		**3**
Elective Credit Block		2
		71

Direct Course Equivalent

General Education Course

Courses Still Needed at UWGB

Course	Credits
PHYSICS 104, Funadmentals of Physics II	5
Remaining Advanced Study Group	28

Remaining gen eds, minimum: 3cr Fine Arts, 6 crs Humanities, 3 crs Biological Science, 3 crs Sustainability Perspective, 3 crs Global Culture, 3 crs. Lower Level Writing Emphasis, 6 credits Upper Level Writing Emphasis (taken through major courswork), Capstone (use ET 400 0r 410)

D. NWTC Electronics Associate's Program 10-605-1

Rationale for how programs are related: The Associate's program in Electronics is a good fit for the fundamentals group of courses in UW-Green Bay's Electrical Engineering Technology (ElecET) program. Students completing the associate's degree will meet the desired learning outcomes for some of the fundamentals, supporting, and advanced courses in UWGB's BS ElecET degree. Presented below are the curriculum for NWTC's Associate's program, the array of courses in the UWGB program that the Associate's program will fulfill in a block transfer, and recommendations for students pursuing this completion route. The curriculum for UWGB's Electrical Engineering Technology Program is given under 2A (above). Students are required to successfully complete all UWGB degree requirements in order to earn a UWGB degree.

Proposed Articulated Block of Courses

Note that the two lists below, NWTC Associate's degree requirement and block list of classes that the Associate's will fulfill, are not equivalent course lists. The NWTC list is the required course list for the Associate's degree and the UWGB list is the fundamentals and supporting course block that the NWTC degree will fulfill.

NWTC Electronics Associate *without* Biomedical Specialty

Course #	Course name	Credits
10-660-100	Electronic Fab.	1
10-660-101	Digital 1: Logic	1
10-660-102	Digital 2: Sequential	1
10-660-103	Digital 3: Registers	1
10-660-104	DC 1: Intro.	1
10-660-105	DC 2: Circuits	1
10-660-106	DC 3: Circuit Theorems	1
10-804-118	**Interm Alg. w Apps.**	**4**
10-809-199	**Psychology of Human Rel.**	**3**
10-890-101	College 101	1
10-620-140	Mach. Wiring & Safety	1
10-809-166	**Intro. Ethics: Theory & App**	**3**
10-660-107	AC 1: Properties	1
10-660-108	AC 2: Reactance	1
10-660-109	AC 3: RLC Circuits	1
10-660-110	Electronics 1	1
10-660-111	Electronics 2	1
10-660-112	Electronics 3	1
10-660-113	Digital 4: ALU	1
10-660-114	Digital 5: Charact.	1
10-804-196	**Trig. W Apps.**	**3**
10-809-172	**Intro. Diversity Studies**	**3**
	Elective	3
10-605-160	Linear Electronics I	1
10-605-161	Linear Electronics 2	1
10-605-162	Linear Electronics 3	1
10-605-163	Micro. 1: Intro.	1
10-605-164	Micro. 2: Technique	1
10-605-165	Micro. 3: Interfaces	1
10-605-170	Datacomm. 1	1
10-605-171	Datacomm. 2	1
10-605-172	Datacomm. 3	1
10-801-136	**English Comp. 1**	**3**
10-806-143	College Physics 1	3
10-605-169	Electronics Design Integration	3
10-605-174	Datacomm 5: Fiber Optics	1

UWGB Courses

Course #	Course name	Credits
ET 101	Fund. of Eng. Tech.	2
ET 105	Fund. of Drawing	3
ET 130	Basic Elec. Circuits I	3
ET 131	Basic Elec. Circuits II	3
ET 142	Intro. to Program.	3
ET 150	Codes, Safety, Stand.	2
ET 232	Semiconductor Dev.	3
ET 233	Linear Circuits	3
ET 240	Microcon. and PLCs	3
ET 250	Signals and Sys.	3
ET 311	Digital Electronics	3
ET 346	Electric Power System	3
ET 350	Data Com & Protcols	3
PHYSICS 103	Fund. of Physics I	5
Social Sc. Gen. Ed.		**3**
Social Sc. Gen. Ed.		**3**
Ethnic Studies Gen. Ed.		**3**
ENG COMP 100 (English Competency)		**3**
Humanities Gen. Ed.		**3**
First Year Seminar		3
MATH 104 (Math Competency)		**4**
Communications		**3**
Elective Credit Block		2
		69

10-605-175	Datacomm 6: Fiber Optics Adv	1	
10-605-180	Analog Comm 1: Noise Effect	1	
10-605-181	Analog Comm 2: AM/SSB	1	
10-605-182	Analog Comm 3: FM Systems	1	
10-801-197	**Technical Reporting**	**3**	
10-809-195	**Economics**	**3**	
10-605-157	Power Electonics 1: Devices	1	
10-605-158	Power Electronics 2: Drives	1	
10-605-173	Datacomm 4: Digital Mod	1	
10-620-159	Power Electroncs 3: Drives	1	**Direct Course Equivalent**
		69	General Education Course

Recommendations for Students:
For NWTC students planning to pursue a BS in Engineering Technology, the following NWTC courses and their UWGB equivalents are recommended.

Course	NWTC #	credits		UWGB #	credits
Calculus 1	10-804-198	4	=	MATH 202, Calculus & An Geo I	4
Calculus 2	10-804-181	4	=	MATH 203, Calculus & An Geo II	4

Courses Still Needed at UWGB

Course	Credits
MATH 202, Calculus & Analytic Geometry I	4
MATH 203, Calculus & Analytic Geometry II	4
PHYSICS 104, Fundamentals of Physics II	5
Remaining Advanced Study Group	25

Remaining gen eds, minimum: 3cr Fine Arts, 6 crs Humanities (not PHILOS), 3 crs Biological Science, 3 crs Sustainability Perspective, 3 crs Global Culture. 3 crs Quantitative Literacy (use MATH 202), 3 crs. Lower Level Writing Emphasis, 6 credits Upper Level Writing Emphasis (taken through major courswork), Capstone (use ET 400 or 410)

E. NWTC Utilities Engineering Technology Associate's Program

Rationale for how programs are related: The Associate's program in Utilities Engineering Technology is a good fit for the fundamentals group of courses in UW-Green Bay's Electrical Engineering Technology (ElecET) program. Students completing the associate's degree will meet the desired learning outcomes for some of the fundamentals, supporting, and advanced courses in UWGB's BS ElecET degree. Presented below are the curriculum for NWTC's Associate's program, the array of courses in the UWGB program that the Associate's program will fulfill in a block transfer, and recommendations for students pursuing this completion route. Students are required to successfully complete all UWGB degree requirements in order to earn a UWGB degree.

Proposed Articulated Block of Courses

Note that the two lists below, NWTC Associate's degree requirement and block list of classes that the Associate's will fulfill, are not equivalent course lists. The NWTC list is the required course list for the Associate's degree and the UWGB list is the fundamentals and supporting course block that the NWTC degree will fulfill.

NWTC Utilities Eng. Technology Associate		
Course #	**Course name**	**Credits**
10-468-100	Utility Safety	2
10-614-113	2D Essentials	2
10-620-100	Fluids 1: Pneumatics	1
10-620-101	Fluids 2: Hydraulics	1
10-660-101	Digital 1: Logic	1
10-660-102	Digital 2: Sequential	1
10-660-104	DC 1: Intro.	1
10-660-105	DC 2: Circuits	1
10-660-106	DC 3: Cir. Theorems	1
10-664-100	Automation 1	1
10-664-101	Automation 2	1
10-804-118	**Interm Alg. w Apps.**	**4**
10-890-101	College 101	1
10-442-100	Metal Fab. 1	2
10-468-105	Ultility Generation Systems	2
10-660-107	AC 1: Properties	1
10-660-108	AC 2: Reactance	1
10-660-109	AC 3: RLC Circuits	1
10-660-110	Electronics 1	1
10-664-102	Automation 3: PLC	1
10-664-103	Automation 4: PLC	1
10-664-104	Automation 5: PLC	1
10-804-196	**Trig. W Apps.**	**3**
10-806-143	College Physics 1	3
10-468-101	Utility Power Sys. Coor.	3
10-605-157	Power Electronics 1	1
10-605-158	Power Electronics 2	1
10-620-159	Power Electronics 3	1
10-620-161	Power Electricity 1	1
10-620-162	Power Electricity 2	1
10-664-160	Control 1: Discrete Sys.	1
10-664-161	Control 2: Process Sys.	1
10-664-162	Control 3: Motion Sys.	1
10-801-136	**English Comp. 1**	**3**
10-809-198	**Intro Psychology**	**3**
10-468-102	Utility Project Exec.	3
10-468-103	Utility Sys. Mainten.	3
10-468-104	Utility Sys. Nat. Gas	3
10-606-113	CAD	2
10-801-197	**Tech. Reporting**	**3**
10-809-172	**Intro. Diversity Studies**	**3**
		69

UWGB Courses		
Course #	**Course name**	**Credits**
ET 101	Fund. of Eng. Tech.	2
ET 105	Fund. of Drawing	3
ET 130	Basic Elec. Circuits I	3
ET 131	Basic Elec. Circuits II	3
ET 232	Semiconductor Dev.	3
ET 240	Microcon. and PLCs	3
ET 250	Signals and Sys.	3
ET 311	Digital Electronics	3
ET 324	Motors and Drives	3
ET 340	Advanced PLC's	3
ET 346	Elect Power Systems	3
PHYSICS 103	Fund. of Physics I	5
First Year Seminar		3
Social Sc. Gen. Ed.		**3**
ENG COMP 100 (English Competency)		**3**
Ethnic Studies Gen. Ed.		**3**
MATH 104 (Math Competency)		**4**
Communications		**3**
Elective Credit Block		13
		69
Direct Course Equivalent		
General Education Course		

Recommendations for Students:

For NWTC students planning to pursue a BS in Engineering Technology, the following courses and their UWGB equivalents are recommended.

Course	**NWTC #**	**credits**		**UWGB #**	**credits**
Calculus 1	10-804-198	4	=	MATH 202, Calculus & Analytic Geo I	4
Calculus 2	10-804-181	4	=	MATH 203, Calculus & Analytic Geo II	4
Linear Circuits	10-605-160	1	=	ET 233, Linear Circuits	3
and	10-605-161	1			
and	10-605-162	1			

Courses Still Needed at UWGB

Course	Credits
ET 142, Introduction to Programming	3
ET 150, Codes, Safety, & Standards	2
ET 233, Linear Circuits	3
MATH 202, Calculus & Analytic Geometry I	4
MATH 203, Calculus & Analytic Geometry II	4
PHYSICS 104, Fundamentals of Physics II	5
Remaining Advanced Study Group	22

Remaining gen eds, minimum: 3cr Fine Arts, 3 crs Social Science (not PSYCH), 6 crs Humanities, 3 crs Biological Science, 3 crs Sustainability Perspective, 3 crs Global Culture, 3 Quantitative Literacy (use MATH 202), 3 crs. Lower Level Writing Emphasis, 6 credits Upper Level Writing Emphasis (taken through major courswork), Capstone (use ET 400 or 410)

3. UW-Green Bay Environmental Engineering Technology BS

Presented below is the curriculum for UWGB's Environmental Engineering Technology Program.

UWGB Environmental Engineering BS requirements
(without general education requirements, unless fulfilled by degree requirements)

Support Group (39 credits)

BIOLOGY 201, 202	Principles of Biology: Cellular & Molecular Processes Lec & Lab (4 cr)
Chemistry 211, 213	Principles of Chemistry I Lec & Lab (5 cr)
Chemistry 212, 214	Principles of Chemistry II Lec & Lab (5 cr)
ET 101	Fundamentals of Engineering Technology (2 cr)
ET 103	Surveying (3 cr)
ET 105	Fundamentals of Drawing (3 cr)
MATH 202	Calculus & Analytic Geometry I (4 cr)
MATH 203	Calculus & Analytic Geometry II (4 cr)
MATH 260	Introductory Statistics (4 cr)
PHYSICS 103 or 201	Fundamentals of Physics I or Principles of Physics I (5 cr) – either algebra or calculus based

Fundamentals Group (28 credits)

BIOLOGY 322	Environmental Microbiology (4 cr)
ENV SCI 207	Laboratory Safety (1 cr)
ET 118	Fluids I (2 cr)
ET 201	Introduction to Air Quality (2 cr)
ET 202	Introduction to Solid and Hazardous Waste (2 cr)
ET 203	Introduction to Water and Waste Water (3 cr)
ET/ENV SCI 320	The Soil Environment (4 cr)
ET/ENV SCI 330	Hydrology (3 cr)
ET 391	Geographic Information Systems (3 cr)
GEOSCI 202	Physical Geology (4 cr)

Advanced Study Group (18-19 credits)

Required:

ET 360	Project Management (3 cr)

Choose a minimum of one course from the following course list:

ET 331/ENV SCI 335	Water and Waste Water Treatment (3 cr)
ET/ENV SCI 334	Soild Waste Management (3 cr)
ET 464	Atmospheric Pollution and Abatement (3 cr)

Choose a minimum of one course from the following course list:

ECON 305	Natural Resources Economic Policy (3 cr)
ET/ENV SCI 305	Environmental Systems (4 cr)
ET/ENV SCI 323	Pollution Prevention (3 cr)
ET 377	Indistrial Safety and Hygiene (3 cr)
ET/ENV SCI 415	Solar and Alternate Energy Systems (3 cr)
ET 420	Lean Processes (3 cr)
ET/ENV SCI 424	Hazardous and Toxic Materials (3 cr)
ET/ENV SCI/GESOSCI 432	Hydrogeology (3 cr)
ET/ENV SCI 433	Ground Water: Resources and Regulations (3 cr)
PU EN AF 378	Environmental Law (3 cr)

One of:

ET 400	Co-op/Internship in Engineering Technology (3 cr)
ET 410	Capstone Project (3 cr)

A. NWTC Environmental Engineering: Waste and Water Technology Associate's Program 10-506-2

Rationale for how programs are related: The Associate's program in Environmental Engineering: Waste and Water Technology is a good fit for the fundamentals group of courses in UW-Green Bay's Environmental Engineering Technology (EnvirET) program. Students completing the associate's degree will meet the desired learning outcomes for some of the fundamentals, supporting, and advanced courses in UWGB's BS EnvirET degree. Presented below are the curriculum for NWTC's Associate's program, the array of courses in the UWGB program that the Associate's program will fulfill in a block transfer, and recommendations for NWTC students pursuing this completion route. Students are required to successfully complete all UWGB degree requirements in order to earn a UWGB degree.

Proposed Articulated Block of Courses

Note that the two lists below, NWTC Associate's degree requirement and block list of UWGB classes that the Associate's will fulfill, are not equivalent course lists. The NWTC list is the required course list for the Associate's degree and the UWGB list is the fundamentals and supporting course block that the NWTC degree will fulfill.

NWTC Environ. Eng.: Waste & Water Technology Associate

Course #	Course name	Cr
10-403-100	Blueprint Reading Intro	1
10-506-146	Intro. Environ. Science	3
10-506-147	Environ. Biology	4
10-804-118	**Interm Algebra w Apps**	**4**
10-806-134	General Chemistry	4
10-890-101	College 101	1
10-506-148	Environ. Chem. Analysis	4
10-506-149	Intro. Envir. Compliance	3
10-614-113	2D Essentials	2
10-620-100	Fluids I: Basic Pneumatics	1
10-620-101	Fluids 2: Basic Hydraulics	1
10-620-165	Fluids 3: Inter Hydraulics	1
10-801-136	**English Composition 1**	**3**
10-804-196	**Trigonometry w Apps**	**3**
10-506-150	Envir. Microbiology	3
10-506-151	Wastewater Treatment Analysis	4
10-506-152	Ind. Safety & Emerg Response	3
10-606-113	CAD	2
10-620-121	Mechanics 1: Basic	1
10-620-122	Mechanics 2: Intermediate	1
10-664-100	Automation 1: Control Logic	1
10-664-101	Automation 2: Motor Control	1
10-801-197	**Technical Reporting**	**3**
10-506-154	Air Poll. Control Systems	3
10-506-155	Water Treat. & Analysis	4
10-506-156	Solid & Hazard. Waste	3
10-809-172	**Intro. to Diversity Stud.**	**3**
10-809-198	**Intro. to Psychology**	**3**
		70

UWGB Courses

Course #	Course name	Credits
ET 101	Fund. of Engin. Tech.	2
ET 118	Fluids I	2
ET 201	Intro. to Air Quality	2
ET 202	Intro Soild &Haz Waste	2
ET 203	Intro. Water & WW	3
ET 331	Water & WW Treat.	3
ENV SCI 102	Intro. Env. Science	3
ENV SCI 207	Laboratory Safety	1
BIOLOGY 201	Prin Bio Cell/Mole Lec	3
BIOLOGY 202	Prin Bio Cell/Mole Lab	1
BIOLOGY 322	Envir. Microbiology	4
CHEM 211	Prin. Chem. I Lec	4
CHEM 213	Prin. Chem. I Lab	1
First Year Seminar		3
Social Science Gen. Ed.		3
Ethnic Studies Gen. Ed.		3
MATH 104 (Math Competency)		3
ENG COMP 100 (English Competency)		3
Communications Elective		3
Elective Credit Block		21
		70

Direct Course Equivalent

General Education Course

Recommendations for Students:
For NWTC students planning to pursue a BS in Engineering Technology, the following courses and their UWGB equivalents are recommended.

Course	NWTC #	credits		UWGB #	credits
Calculus 1	10-804-198	4	=	MATH 202, Calculus & An Geo I	4
Calculus 2	10-804-181	4	=	MATH 203, Calculus & An Geo II	4

Courses Still Needed at UWGB

Course		Credits
PHYSICS 103	Fundamentals of Physics I	5
CHEM 212/214	Principles of Chemistry II Lec & Lab	5
MATH 202	Calculus & Analytic Geometry I	4
MATH 203	Calculus & Analytic Geometry II	4
MATH 260	Introductory Statistics	4
GEOSCI 202	Physical Geology	4
ET 320/ENV SCI 320	The Soil Environment	4
ET 330/ENV SCI 330	Hydrology	3
ET 391	Geographic Information Systems	3
Remaining Advanced Study Group		15-16

Remaining gen eds, minimum: 3cr Fine Arts, 3 crs Social Science (not PSYCH), 6 crs Humanities, 3 crs Sustainability Perspective, 3 crs Global Culture, 3 crs Quantitative Literacy (use MATH 202), 3 crs. Lower Level Writing Emphasis, 6 credits Upper Level Writing Emphasis (taken through major courswork), Capstone (use ET 400 or 410)