Articulation Agreement Proposal for Engineering Technology Associate's Degree programs at Lakeshore Technical College and the BS programs in Mechanical, Electrical, and Environmental Engineering Technology at UW-Green Bay

In accordance with the University of Wisconsin System guidelines for articulation agreements between UW System institutions and WTCS (Wisconsin technical college System) districts, the following associates programs at LTC will count for significant block credit transfers into the Mechanical, Electrical, and Environmental Engineering Technology programs at UW-Green Bay. Each will be discussed separately with material required by the AIS 6.2 guidelines for developing program-to-program articulation agreements.

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)

Support Group (32-37 credits)

LI 101 I Ullualilelitais Ol Eligilleelilig Technology (2 Ci	ET 101	Fundamentals of Engineering Technology (2 ci
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ET 130 Basic Electrical Circuits I (3 cr)

either both

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

ENICD 212

ET 221

ET 324

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

Machanias I. Statics (2 or)

Machine Components (3 cr)

Motors & Drives (3 cr)

algebra or calculus based

Fundamentals Group (27 credits)

ENGR 213	Mechanics I: Statics (3 cr)
ENGR 214	Mechanics II: Dynamics (3 cr)
ET 105	Fundamentals of Drawing (3 cr)
ET 116	Basic Manufacturing Processes (3 cr)
ET 118	Fluids I (3 cr)
ET 142	Introduction to Programming (3 cr)
ET 207	Parametric Modeling (3cr)
ET 220	Mechanics of Materials (3 cr)

Advanced Study Group (28 credits)

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)
FT 322	Design Problems (3 cr)

ET 360	Project Management (3 cr)
ET 390	Mechatronics (4 cr)
One of	
ET 410	Capstone Project (3 cr)
ET 400	Co-op/Internship in Engineering Technology (3 cr)

A. LTC 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 the fundamentals course array and some of the supporting courses in UWGB's BS MET degree. Presented below are the curriculum for LTC's Associate's program and the array of courses in the UWGB program that the Associate's program will fulfill in a block transfer.

Proposed Articulated Block of Courses

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

LTC Mechanical Design Technology Associate			UWGB Cou	<u>rses</u>	
Course #	Course name	Credits	Course #	Course name	Credits
10-606-101	Basic Mech. Drafting	2	ET 101	Intro. to Eng Tech	2
10-606-103	Inter. Mech. Drafting Autocad	2	ET 105	Fund. Of Drawing	3
10-606-105	Basic Model. Using Autocad	2	ET 116	Basic Man Processes	3
10-606-106	Geo. Dimen. and Toler.	3	ET 207	Parametric Modelling	3
10-606-112	Tool Design Basic	3	ET 220	Mechanics of Materials	3
10-606-117	Machine Elements	3	ET 221	Machine components	3
10-606-118	Kinematics	3	ET 322	Design Problems	3
10-606-125	Design Problems	3			
10-606-130	Strength of Mats.	4	Physics 103	Fund. of Physics I	5
10-606-134	Statics	4	First Year Sei	minar	3
10-606-140	Draft. Para. using Solidworks	3	Math 094 (N	lath Competency)	0
00 of:.	-606-160 Manu. Proc./Apps.	3	English Com	p OR COMM Elective**	3
ō ° 10	-606-104 Dev. Manu. Skills	3	Social Science	e gen ed	3
10-606-195	Parametric Drafting	3	Social Science	e gen ed	3
10-606-196	Work. Draw. using Solidworks	3	Communicat	tions Elective	3
10-606-197	Working Drawings	3	Elective Cred	lit Block	23
10-606-199	Intro. Current Man. Trends	3			63
10	-801-195 Written Comm.**				
of:	-801-197 Technical Report	3			
	-801-136 English Comp. 1**				
10-801-196	Oral/Inter. Skills	3			
10-804-115	College Tech. Math 1	5			
10-806-154	General Physics 1	4			
ي بي 10	-809-196 Intro. to Sociology	3	** Preferred	course to earn ENG compe	etency,
ob: 00:-	-809-195 Economics	3	other course	will only transfer as elective	ve
10-809-198	Intro. to Psychology	3	General Educ	cation Course	
		68	Direct Cours	e Equivalent	

Courses still needed at UWGB

Course		Credits		
ET 118	Fluids I	3		
ET 130	Basic Elec. Circuit I	3		
ET 142	Introduction to Programming	3		
ENGR 213	Mechanics I: Statics	3		
ENGR 214	Mechanics II: Dynamics	3		
ET 206	Chemistry for Eng.	5		
Or BOTH				
CHEM 211/213 Principles of Chemistry 1 (lec & lab)				
CHEM	5			
MATH 202	Calculus & Analytic Geometry I	4		
MATH 203	Calculus & Analytic Geometry II	4		
MATH 260	Introductory Statistics	4		
Physics 104	Fundamentals of Physics II	5		
Remaining Advanced study group (all except ET322)				

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 and graduation 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 211	Digital Electronics (3 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)

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	Industrial Electronics and Control (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 //10	Canatana Project (2 cr)

ET 410 Capstone Project (3 cr)

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

A. LTC 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 the fundamentals course array and some of the supporting courses in UWGB's BS ElecET degree. Presented below are the curriculum for LTC's Associate's program and the array of courses in the UWGB program that the Associate's program will fulfill in a block transfer.

Proposed Articulated Block of Courses

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

LTC Electro-Mechanical Technology Associate			UWGB Cou	<u>rses</u>	
Course #	Course name	Credits	Course #	Course name	Credits
10-620-103	Fluid Power 1	2	ET 101	Funds Engin. Tech.	2
10-620-104	Fluid Power 2	3	ET 105	Fund. of Drawing	3
10-620-120	Basic Tools and Measurement	1	ET 130	Basic Elec. Circuits I	3
10-620-122	Ind. Controls Intro.	2	ET 131	Basic Elec. Circuits II	3
10-620-130	Intro. to Mechanisms Mech.	3	ET 150	Codes, Safety, Stand.	2
10-620-138	Programm. Control. – Adv	3	ET 240	Microcon. and PLCs	3
10-620-140	Program. Control. Adv.	2	ET 250	Signals and Systems	3
10-620-141	Ind. Controls and Motors	3	ET 311	Digital Electronics	3
10-620-147	Electronic Dev. Transducers	2	ET 340	Advanced PLCs	3
10-620-164	Electromech. Systems	3	Physics 103	Fund. of Physics I	5
10-620-168	Robotics Intro.	2	First Year Se	minar	3
10-620-169	Robotic Maintenance	1	English Com	p. Or COMM Elective**	3
10-620-171	Robotics Adv.	2	Math 094 (N	lath Competency)	0
10-620-192	Frequency Drives	1	Social Science	ce gen ed	3
10-620-193	NEC Codes	1	Social Science	ce gen. ed.	3
10-620-194	Touch Screen Apps.	2	Communica	tions	3
10-620-195	Indus. Troubleshooting	1	Elective Cred	lit Block	18
10-620-196	Ind. Applications	4			63
10-620-197 Analog Controls		2			
10-620-198	Industrial Networks	2			
10-620-199	Integration of Manu.	2			
10-660-105	DC Fundamentals	2			
10-660-110	AC Fundamentals	2			
e	10-801-195 Written Comm**	3			
One of:	10-801-197 Technical Report	3			
10-801-196	Oral/Inter. Comm.	3			
10-804-115	Coll. Technical Math 1	5			
10-606-154	General Physics 1	4			
g	10-809-196 Intro. to Sociol	3	** Preferred	course to earn ENG comp	etency,
One of:	10-809-195 Economics	3	other course	will only transfer as electi	ve
10-809-198	Intro. to Psychology	3	General Edu	cation Course	
		68	Direct Cours	e Equivalent	

Courses still needed at UWGB

Course		Credits
ET 142	Intro to Programming	3
ET 232	Semiconductor Devices	3
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 Adv	28	

Remaining pre-requisite courses, general education & graduation requirements

B. LTC Energy Management Technology Associate's Program 10-481-3

Rationale for how programs are related: The Associate's program in Energy Management Technology, which is a partnered degree between Lakeshore Technical College and Northeast Wisconsin Technical College, 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 the fundamentals course array and some of the supporting courses in UWGB's BS ElecET degree. Presented below are the curriculum for NWTC's/LTC's Associate's program and the array of courses in the UWGB program that the Associate's program will fulfill in a block transfer.

Proposed Articulated Block of Courses

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

LTC Energy Management Technology Associate		UWGB Cou	rses		
Course #	Course name	<u>Credits</u>	Course #	Course name	Credits
10-413-110	Intro. to Energy	2	ET 101	Fund. Eng. Tech.	2
10-481-114	Intro. to Energy Manage.	3	ET 105	Fund. of Drawing	3
10-660-105	DC Fundamentals	2	ET 130	Basic Elec. Circuits 1	3
10-620-103	Fluid Power 1	2	ET 131	Basic Elec. Circuits 2	3
10-804-115	College Tech Math 1	5	ET 150	Codes, Safety, Stand.	2
10-103-131	Excel 2010 Level 1	1	ET 240	Microcon. and PLCs	3
10-103-124	Intro. to MS Project Level 1	1	ET 250	Signals and Sys.	3
10-620-104	Fluid Power 2	3	ET 311	Digital Electronics	3
10-481-106	Intro. to Water Resources	2	Physics 103	Fund. of Physics	5
10-620-138	Program. Controllers	3	First year ser	minar	3
10-660-110	AC Fundamentals	3	Math 094 (N	Nath Competency)	0
10-801-195	Written Comm.	3	English Com	p.	3
10-806-154	General Physics 1	4	Social Science	ce Gen Ed	3
10-481-109	Comm. HVACR Analysis	3	Communica	tions	3
10-481-111	Energy control Strategies	3	Elective Cred	dit Block	22
10-481-115	Lighting Fund.	3			61
10-620-141	Ind. Controls and Motors	3			
10-620-164	Electromechanical Systems	3			
10-481-107	Building Energy Simulation	3			
10-481-108	Comm. Energy Analysis	3			
10-481-110	Energy Accounting	2			
10-481-113	Energy Invest. Anal.	3			
10-801-197	Technical Reporting	3			

10-809-198	Intro. to Psychology	3	General Education Course			
		66	Direct Course Equivalency			
Courses still needed at UWGB						
Course			<u>Credits</u>			
ET 142	Intro to Programming		3			
ET 232	Semiconductor Developem	tn	3			
ET 233	Linear Circuits		3			
MATH 202	Calculus & Analytic Geome	try I	4			
MATH 203	Calculus & Analytic Geome	try II	4			
PHYSICS 104	Fundamentals of Physics II		5			
Advanced study group			31			
Remaining pre-requisite courses, general education & graduation requirements						

C. LTC Wind Energy Technology Associate's Program 10-482-1

Rationale for how programs are related: The LTC Associate's program in Wind Energy Technology, which is a partnered degree between Lakeshore Technical College and Northeast Wisconsin Technical College, 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 the fundamentals course array and some of the supporting courses in UWGB's BS MET degree. Presented below are the curriculum for NWTC's/LTC's Associate's program and the array of courses in the UWGB program that the Associate's program will fulfill in a block transfer.

Proposed Articulated Block of Courses

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

LTC Wind Energy Technology Associate			UWGB Courses		
Course #	Course name	Credits	Course #	Course name	Credits
10-413-110	Intro. to Energy	2	ET 101	Funds Eng. Tech.	2
10-442-109	Wind Tur. Str. Weld Inspec.	1	ET 105	Fund. of Drawing	3
10-482-101	Intro. to Wind Systems	3	ET 130	Basic Elec. Circuits I	3
10-482-113	Wind Tech, Health and Safety	2	ET 131	Basic Elec. Circuits II	3
10-482-120	Wind Technician 1 Lab	1	ET 150	Codes, Safety, Stand.	2
10-482-122	Wind Technician 2	1	ET 240	Microcon. and PLCs	3
10-482-124	Wind Technician 3	1	ET 250	Signals and Sys.	3
10-482-126	Wind Technician 4	3	ET 311	Digital Electronics	3
10-482-128	Wind Technician 5	2	Physics 103	Fund. of Physics I	5
e	10-482-132 Turbine Main./S.A	2	English Com	o. OR COMM Elective**	3
One of:	10-482-103 Wind Farm INTSP	2	Math 094 (N	lath Competency)	0
10-620-103	Fluid Power 1	2	First year ser	ninar	3
10-620-104	Fluid Power 2	3	Social Science	e Gen Ed	3
10-620-120	Basic Tools and Measurement	1	Sustainabilit	y Gen Ed	3
10-620-122	Intro. to Industrial Controls	2	Communicat	ions Elective	3
10-620-130	Int. to Mech Mechanisms	3	Elective Cred	it Block	20
10-620-138	Program. Controllers	3			62

10-620-139	PLC Practical Apps.	2	
10-620-141	Ind. Control and Motors	3	
10-620-164	0-164 Electromechanical Systems		
10-620-192	Frequency Drives	1	
10-620-193	NEC Codes	1	
10-620-195	Indus. Troubleshooting	1	
10-660-105	DC Fundamentals	2	
10-660-110	AC Fundamentals	2	
0)	10-801-195 Written Comm**		
of:	10-801-136 English Comp**	3	
Ü	10-801-197 Technical Report		
10-801-196	Oral/Inter. Communication	3	
10-804-115	College Tech. Math 1	5	
10-806-112 Prin. Of Sustainability		3	
10-806-154	General Physics 1	4	
10-809-198	Intro. to Psychology	3	
		67	

** Preferred course to earn ENG competency, other course will only transfer as elective

General Education Course

Direct Course Equivalent

Courses still needed at UWGB

Course		Credits
ET 142	Intro to Programming	3
ET 232	Semiconductor Development	3
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 (all except ET 311)		

Remaining pre-requisite courses, general education & graduation requirements

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 (3 cr)

ET 201 Introduction to Environmental Engineering (3 cr)
ET 203 Introduction to Water and Waste Water (3 cr)

ET 320 The Soil Environment (4 cr)

ET 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 331335 Water and Waste Water Treatment (3 cr)

ET 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 305 Environmental Systems (4 cr)
ET 323 Pollution Prevention (3 cr)
ET 377 Indistrial Safety and Hygiene (3 cr)

ET 415 Solar and Alternate Energy Systems (3 cr)

ET 420 Lean Processes (3 cr)

ET 424 Hazardous and Toxic Materials (3 cr)

ET 432 Hydrogeology (3 cr)

ET 433 Ground Water: Resources and Regulations (3 cr)

PU EN AF 378 Environmental Law (3 cr)

One of:

ET 410 Capstone Project (3 cr)

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

A. LTC Environmental Engineering Waste and Water Technology 10-506-2 Associate's Degree

Rationale for how programs are related: The Associates program in Environmental Engineering Waste and Water Technology, which is a partnered degree between Lakeshore Technical College and Northeast Wisconsin Technical College, is a good fit for the fundamentals group of courses in UW-Green Bay's Environmental Engineering Technology (MET) program. Students completing the associate's degree will meet the desired learning outcomes for the fundamentals course array and some of the supporting courses in UWGB's BS EnvironET degree. Presented below are the curriculum for NWTC'sLTC's Associate's program and the array of courses in the UWGB program that the Associate's program will fulfill in a block transfer.

Proposed Articulated Block of Courses

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

LTC ENV ENGR-Waste & Water Tech Associate			
Course #	Course name	Credits	
10-506-146	Intro to Envir. Science	3	
10-506-147	Environmental Biology	4	
10-804-118	Inter. Algebra with Apps.	4	
10-806-134	General Chemistry	4	
10-801-197	Technical Reporting	3	
10-506-149	Intro. to Environ. Compliance	3	
10-506-148	Envir. Chem. Analysis	4	
10-620-138	Program. Controllers	3	
10-620-157	Hydraulics - Industrial	2	
10-801-195	Written Communications	3	
10-809-195	Economics	3	
10-506-150	Environmental Microbiology	3	
10-506-151	Wastewater Treat & Analysis	4	
10-506-152	Ind. Safety & Emer. Response	3	
10-620-130	Intro. Mech. Mechanisms	3	
10-413-100	Basic Electricity for Trades	3	
10-413-102	Electrical Controls for Trades	1	
10-506-153	Soild & Haz. Waste	4	
10-506-154	Air Poll. Control Sys.	3	
10-506-155	Water Treat. & Analysis	4	
10-809-172	Intro. to Diversity Studies	3	
10-809-198	Intro. to Psychology	3	
		70	

UWGB Courses			
Course #	Course name	Credits	
BIOL 201	Princ. of Biology I Lec	3	
BIOL 202	Princ. of Biology I Lab	1	
BIOLOGY 322	Envir. Micro.	4	
CHEM 211	Prin of Chem I Lec	4	
CHEM 213	Prin of Chem I Lab	1	
ENVSCI 102	Intro Environ. Science	3	
ENVSCI 207	Lab safety	1	
ET 101	Funds of Eng. Tech	2	
ET 105	Fund. of Drawing	3	
ET 118	Fluids I	3	
ET 201	Intro. to Env Eng	3	
ET 203	Intro. to Water & WW	3	
ET 377	Ind. Safety & Hygiene	3	
Math 101 (Math Competency) 3			
English Compe	tency	3	
Social Science	3		
Social Science	3		
Ethnic Studies	Gen Ed	3	
Communicatio	3		
Elective Credit	18		
		70	
General Educat	ion Course		
Direct Course Equivalent			

Courses still needed at UWGB

Course	Credits
CHEM 212/214 Principles of Chemistry II Lec & Lab	5
ET 103 Surveying	3

ET 320	The Soil Environment	4
ET 330	Hydrology	3
ET 391 Geographic Information Systems		3
GEOSCI 202 Ph	ysical Geology	4
MATH 202	Calculus & Analytic Geometry I	4
MATH 203	Calculus & Analytic Geometry II	4
MATH 260	Introductory Statistics	4
PHYSICS 103	Fundamentals of Physics I	5
Remaining Adv	17	

Remaining pre-requisite courses, general education & graduation requirements