



Northwestern
Michigan
College

Associate in Science & Arts (ASA) with MTA

Freshwater Studies

Program Course Guide

Program Code: 590

Student:	Phone:
Student ID:	Advisor:
Signature/Date:	Signature/Date:

FRESHWATER STUDIES ASA CORE REQUIREMENTS (15-17 credits)						
CRN	Number	REQUIRED COURSES	Credits	Recommended and/or Required Prerequisites	Semester Offered	Suggested Semester
	ENV 131	Oceanography	4	Rec: MTH 23, ENG 111	Spring	
	ENV 140	Watershed Science	4	Rec: MTH 111	Fall	
	WSI 105	Intro to Freshwater Studies	3	Rec: MTH 23, ENG 111	Fall	
	WSI 230	Water Policy & Sustainability	3	Req: MTH 23, ENG 111; Rec: WSI 105, PLS 101	Spring	
	WSI 290	Internship	1-3	WSI 105 or GEO 115	All	
MICHIGAN TRANSFER AGREEMENT (MTA) GENERAL EDUCATION REQUIREMENTS (minimum 30 Group 1 credits with at least a 2.0 grade for each course)						
	Communications					
	ENG 111	English Composition	4	Placement	All	
	ENG 112	English Composition	4	ENG 111	All	
	Humanities					
	PHL 105 or PHL 202 or PHL 203	Critical Thinking or Contemporary Ethical Dilemmas or Environmental Ethics	3 3 3	Rec: ENG 11/111	All Fall	
		Group 1 Humanities (not PHL)	3			
	Mathematics					
		One Group 1-MTA mathematics class, MTH 121 or higher	4 credits minimum			
	Natural Science					
	BIO 110 or BIO 115	Essential Biology or Cell, Plant & Ecosystem Biology	4 4	Rec: MTH 23, ENG 111 Rec: MTH 111	All Fall	
	ENV 117	Meteorology & Climatology	4	MTH 23	Fall, Spring	
	Social Science					
	GEO 115	Introduction to GIS	3	Rec: MTH 23	Fall, Spring	
		Group 1-MTA Social Science class (not GEO)	3			

CRN	Number	COURSES	Credits	Recommended and/or Required Prerequisites	Semester Offered	Suggested Semester
FRESHWATER STUDIES APPROVED ELECTIVES BY CONCENTRATION						
Economy and Society						
	BIO 110	Essential Biology	4	Rec: MTH 23	All	
	BUS 101	Intro to Business	3		All	
	ECO 201 <i>or</i> ECO 202	Prin. of Macroeconomics <i>or</i> Prin. of Microeconomics	3 3	Rec: MTH 23	All	
	MGT 241	Principles of Management	3	Rec: BUS 101, place in ENG 111	All	
	MGT 245 <i>or</i> BUS 261	Prin. of Entrepreneurship <i>or</i> Business Law I	3 3	Rec: BUS 101	TBA Fall, Spring	
General (requirements for WMU's BS in Freshwater Science & Sustainability degree)						
	ANT 113	Intro to Cultural Anthropology	3	ENG 99	All	
	BIO 115	Cell, Plant & Ecosystem Biology	4	Rec: MTH 111	Fall	
	BIO 116	Genetic, Evolution, Animal Biology	4	Rec: BIO 115, MTH 111	Spring	
	CHM 150	General Chemistry I	5	MTH 111	All	
	ECO 202	Prin. of Microeconomics	3	Rec: MTH 23	All	
	MTH 131	Intro to Probability & Stats	3	Req: MTH 111	All	
Global Freshwater Policy and Sustainability						
	BIO 110	Essential Biology	4	Rec: MTH 23	All	
	MTH 131	Intro to Probability & Stats	3	Req: MTH 111	All	
	SPN 202 <i>or</i> SPN 227A	Intermediate Spanish II <i>or</i> Spanish for Environ. Mgt. <i>or</i> equivalent world language	4 3	SPN 102 SPN 201	Spring Spring	
Science and Technology						
	BIO 115 <i>or</i> CHM 150 <i>or</i> PHY 121	Cell, Plant & Ecosystem Biology <i>or</i> General Chemistry I <i>or</i> General Physics I	4 5 4	Rec: MTH 111 Rec: MTH 111 Req: MTH 122	Fall All Fall	
	MTH 141	Calculus I	5	Req: MTH 122	All	
Other						
	ASL 101 ASL 102 ASL 103	American Sign Language I American Sign Language II American Sign Language III	4 4 4	ASL 101 ASL 102	Fall Spring TBA	
	FRN 101 FRN 102 FRN 201	Elementary French I Elementary French II Intermediate French I	4 4 4	FRN 101 FRN 102	Fall Spring TBA	
	GEO 109	World Regional Geography	3		Fall, Spring	
	HUM 116	World Cultures	4		Fall, Spring	
	MTH 122	Trigonometry	3	Req: MTH 121	All	
	MTH 141	Calculus	5	Req: MTH 122	All	
	PHY 121	General Physics 1	4	Req: MTH 122	Fall	
	PLS 211	International Relations	3	Rec: ENG 111	Fall, Spring	
	SPN 101 SPN 102 SPN 201 SPN 202 SPN 227A	Elementary Spanish I Elementary Spanish II Intermediate Spanish I Intermediate Spanish II Spanish for Environ. Mgt.	4 4 4 4 3	SPN 101 SPN 102 SPN 201 SPN 201	Fall Fall, Spring All Spring Spring	
	WSI 200	GL Research Technologies	3	MTH 111, ENG 111	Summer	
	WSI 210	Underwater Acoustics & Sonar	3	Rec: MTH 111, PHY 105	Fall	
	WSI 215	Marine GIS & Data Processing	3	ENV 115, GEO 115	Spring	
	WSI 240	ROV Systems & Operations	3	EET 103, MTH 111 Rec: ENG 111	TBA	
TOTAL FRESHWATER STUDIES ASA DEGREE CREDITS REQUIRED: Minimum of 60 credits						7/25/17