



**NMC Freshwater Studies--Associate in Science & Arts
WMU Freshwater Science & Sustainability--Bachelor of Science**



Program Course Guide

Student's Name		Student's ID	
Begin Date		Meeting Dates:	

FRESHWATER STUDIES ASA-GENERAL REQUIREMENTS (must total 35 credits)						
CRN		REQUIRED COURSES	CREDITS	PRE-REQS³ REC²	SEMESTER OFFERED	SUGGESTED SEMESTER
	WSI 105	Introduction to Freshwater Studies	3	Rec: MTH 23, ENG 111	Fall	
	ENV 117	Meteorology & Climatology w/Lab	4	MTH 23	Fall, Spring	
	ENV 131	Oceanography w/ Lab	4	Rec: MTH 23 or COMPASS equiv.	Spring	
	ENV 140	Watershed Science w/Lab	4	Rec: MTH 111	Fall	
	BIO 115	Cell, Plant and Ecosystem Biology w/ Lab	4	Rec: MTH 111	Fall	
	MTH 121	College Algebra	4	MTH 111	All	
	GEO 115	Introduction to GIS ¹	3	Rec: MTH 23	Fall, Spring	
	PHL 105	Critical Thinking ¹	3	Rec: ENG 11/111	All	
	WSI 230	Water Policy and Sustainability ⁵	3	ENG 111 Rec: WSI 105 and PLS 101	Fall	
	WSI 290	Freshwater Studies Internship ⁵	3	ENV/WSI 105 or ENV/GEO 115	Summer	
TOTAL FRESHWATER STUDIES ASA-GENERAL CREDITS REQUIRED			35			

MICHIGAN TRANSFER AGREEMENT (MTA) AND WMU TRANSFER REQUIREMENTS (minimum 30 credits)						
Communications						
	ENG 111	English Composition	4	COMPASS	All	
	ENG 112	English Composition	4	ENG 111	All	
Humanities						
	PHL 105	Critical Thinking ¹	3*	Rec: ENG 11/111	All	
		Group 1 Humanities (other than PHL)	3			
Natural Science						
	BIO 116	Genetic, Evolution, Animal Biology w/ Lab	4	Rec: MTH 111	Spring	
	CHM 150	General Chemistry I w/Lab	5	MTH 111	All	
Social Science						
	ECO 202	Principles of Microeconomics	3	Rec: MTH 23	All	
	GEO 115	Introduction to GIS ¹	3	Rec: MTH 23	Fall, Spring	
Mathematics						
	MTH 131	Introduction to Probability and Statistics	3	MTH 111 or higher	All	
TOTAL MTA GENERAL EDUCATION REQUIREMENTS			32			
TOTAL FRESHWATER STUDIES GENERAL ASA PROGRAM CREDITS REQUIRED: 60						

ADDITIONAL WMU GENERAL EDUCATION REQUIREMENTS (Available at NMC)						
CRN			CREDITS	PRE-REQS	SEMESTER OFFERED	SUGGESTED SEMESTER
	ANT 113	Introduction to Cultural Anthropology	3	ENG 99	All	
	FRN 101,102 SPN 101,102 ASL 101,102 ⁴	Elem. French I and Elem. French II <i>or</i> Elem. Spanish I and Elem. Spanish II <i>or</i> American Sign Language I and ASL II	8	Language Placement Test	Fall, Spring	

SUSTAINABILITY CORE REQUIREMENTS (WMU)						
	ACTY 3990	Sustainable Accounting	3			
	ANTH 3470	Ethnicity/Multiculturalism	3			
	ECON 3190	Environmental Economics	3			
	ENVS 2150	Environmental Systems & Cycles	3			
	ENVS 2250	Environmental Ecology	3			
	ENVS 3000	Introduction to Sustainability	3			
	ENVS 3200	Major Environmental Writings ⁶	3			
	ENVS 3400	Environmental Policy	4			
	GEOG 3500	Conservation & Environmental Mgt.	3			
	MGMT 3120	Sustainable Operations	3			
	MKTG 3330	Sustainable Marketing	3			
	PHIL 3160	Ethics in Engineering & Technology	3			

FRESHWATER CORE REQUIREMENTS (WMU)						
	BIOS 5535	Freshwater Ecology	4			
	BIOS 5545 <i>or</i> GEOG 5530	Human Impact on GL Ecosystem Water Resources Management	3			
	ENVS 5400	Freshwater Policy & Law	3			

FRESHWATER SCIENCE ELECTIVES (Minimum 12 credit hours from any of the following courses)						
	GEOG 5570	Environmental Impact Assessment	3			
	GEOG 5530	Water Resource Management	3			
	GEOS 5120	Principles of Hydrogeology	3			
	GEOS 5090	Surface Water Hydrology	3			
	GEOG 5550	Cont. Issues in Resources Management	3			
	BIOS 5970	Topics in Biological Sciences	3			
	BIOS 5525	Fish Biology	3			

TOTAL WMU CREDITS REQUIRED: 70

TOTAL BS NMC/WMU CREDITS REQUIRED: 127

Notes:

¹ Credit applies to MTA and FWS

² REC: Recommended pre-requisite

³ PRE-REQs: Required pre-requisites listed by course number

⁴ Completion of two years of high school language with a B- or better in the last semester OR two semesters of college level World Languages OR placing into the 2000 or higher level on a proctored language proficiency exam at WMU

⁵ WMU students may transfer back or substitute these credits

⁶ Baccalaureate-level Writing Requirement at WMU

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