COLLEGE OF LIBERAL ARTS AND SCIENCES (CLAS) ACADEMIC ADVISING CENTER 2013-2014

NATURAL RESOURCE MANAGEMENT-BS-ECOSYSTEM SCIENCE AND MANAGEMENT

THIS IS A **GENERAL** CURRICULUM GUIDE AND IS NOT APPLICABLE TO EVERY STUDENT. IT IS IMPORTANT TO MEET WITH YOUR ADVISOR.

This sample plan assumes a waiver of the MTH 110 prerequisite

Year One			
BIO 120 General Biology I Prerequisite: High school chemistry, CHM 109, or CHM 115 strongly recommended (CHM 109 or 115 may be taken concurrently with BIO 120)	4	BIO 121 General Biology II Prerequisite: BIO 120	4
		GEO 111 Exploring the Earth	4
		NRM 150 Introduction to Natural Resources	3
CHM 109 Introductory Chemistry	4	**MTH 122 College Algebra	3
OR CHM 115 Principles of Chemistry I Prerequisites: High school chemistry and (MTH 110 or MTH 122 or MTH 125 or MTH 201)	5	Prerequisite: MTH 110 or proficiency through math placement – **see notes below regarding the Advanced Math Waiver/Override**	
Gen Ed	3		
WRT 150 Strategies in Writing	4		
Total	*15-16**	*Total*	*14*
Year Two			
BIO 215 General Ecology Prerequisite: BIO 120 and 12 college credits; BIO 121 recommended	4	NRM 395 GIS Applications in Resource Management Prerequisite: GPY 307 or NRM 250	3
		STA 215 Introductory Applied Statistics Prerequisite: MTH 110 or equivalent	3
NRM 250 Resource Measurements and Maps	4		
NRM 281 Principles of Soil Science	4	ECO 211 Introductory Microeconomics Prerequisites: MTH 110 or MTH 122 or MTH 201, sophomore standing recommended	3
Gen Ed	3		
		Gen Ed	3
		Gen Ed	3
Total	*15*	*Total*	*15*
Year Three			
[2]NRM Cognate Course	3/4	NRM 320 Introduction to Resource Systems Prerequisites: BIO 215 and MTH 122	3
NRM 452 Watershed and Wetland Management Prerequisites: GEO 111, MTH122, and NRM 250	4	NRM 462 Forest Ecosystem Management Prerequisite: NRM 250	4
Gen Ed	3		
Issue/Theme	3	NRM 308 Wildlife Ecology Prerequisite: BIO 215	4
		[2]NRM Cognate Course	3/4
Total	*13-14*	*Total*	*14-15*
Year Four			
BIO 460 Terrestrial Ecosystem Ecology Prerequisites: BIO 215; NRM 281 recommended	4	[3]NRM 495 SWS Trends in Natural Resources Management (Capstone) Prerequisites: Completion of 20 credits in NRM, STA 215	4
[2]NRM Cognate Course	3/4		3/4
[1]NRM Core Course	3/4	[2]NRM Cognate Course	3/4
Issue/Theme	3	[1]NRM Core Course	3
		Gen Ed	
Total	*13-15*	*Total*	*13-15*

*The block tuition rate is for 12-15 credits. You will pay additional tuition for any credits over 15.

****Students with the Advanced Math Waiver/Override based on ACT scores are still required to complete a college level mathematics course higher than MTH 110. Students should choose from MTH 122, 123, 125 or 201.**

[1] NRM majors must complete a total of 40 credits of NRM courses with a GPA of 2.0 or better. NRM 250, 281, 308, 395, 452, and 462 are required for the Ecosystem Science and Management emphasis. Please see reverse for additional NRM options.

[2] NRM majors must complete a minimum of 40 credits of cognate courses (These cannot have NRM prefixes). Please see reverse for cognate courses. Ecosystem Science and management emphasis students must choose one course from each of the following groups: Plant Taxonomy and Identification, Aquatic Sciences, and Wildlife Biology. See reverse for courses within each group.

[3] Students must complete a total of two courses with an SWS attribute.

-A total of 120 credits are required for graduation. Please supplement your schedule with elective courses to reach the required 120 credits.

NRM classes are generally not offered during the summer. You are encouraged to obtain a natural resources management job, an internship (NRM 490), conduct a research project (NRM 499), or take general education and elective classes during the summer.

It is imperative to meet with your faculty advisor and an advisor in the CLAS Academic Advising Center regularly.
The CLAS Academic Advising Center is located in C-1-140 MAK, 616-331-8585.
Online at: http://www.gvsu.edu/clasadvising

Natural Resources Management Students only have the option of pursuing a Bachelor of Science degree. The B.S. degree requirements are incorporated into the major and include: MTH 122, NRM 320, and BIO 460.

Declaring the Natural Resources Management - Ecosystem Science and Management Major:

1. Log into myBanner from the GVSU homepage
2. Once logged in select "Student," "Student Records," and then "Change Major"
3. Click on the "Change Major 1/Program" box
4. Click on the down arrow in the box next to "New Major 1/Program," from here scroll down and choose "Natural Resources Mgmt – BS Ecosystem Science and Management"
5. Click "Submit" and then "Change to New Program"

General Education Overlap

General Education Categories fulfilled by the NRM Major:	
Life Sciences with Lab: BIO 120	Physical Sciences with Lab: CHM 109 or CHM 115
Mathematical Sciences: MTH 122 or STA 215	Social and Behavioral Sciences: ECO 211
Theme/Issue: NRM 451, BIO 328, ECO 345	

Natural Resources Management Cognate Courses

There are 29-30 credits of cognates required in the curriculum:

MTH 122 College Algebra	GEO 111 Physical Geology
STA 215 Introductory Applied Statistics	CHM 115 Principles of Chemistry I
BIO 120 General Biology I	**or** CHM 109 Introductory Chemistry
BIO 121 General Biology II	ECO 211 Microeconomics
BIO 215 General Ecology	

Choose one course from each of the categories below to reach a minimum total of 40 cognate credits:

Plant Taxonomy and Identification	**Aquatic Sciences**	**Wildlife Biology**
BIO 243 Plant Identification and Natural History	BIO 362 Fisheries Biology	BIO 342 Ornithology
BIO 323 Aquatic and Wetland Plants	BIO 402 Aquatic Insects	BIO 408 Wildlife Management
BIO 333 Systematic Botany	BIO 440 Limnology	BIO 412 Mammalogy
BIO 433 Plant Ecology	BIO 450 Stream Ecology	BIO 470 Conservation Biology

Natural Resources Management Core Electives

NRM majors must complete a total of 40 credits of NRM courses with a GPA of 2.0 or better. Choose from the list below to reach the minimum of 40 NRM credits.
(BIO 460, required for the BS cognate, also counts as NRM credit)

BIO 408 Wildlife Management (check with your advisor)	NRM 450 Applied Spatial Analysis of Natural Resources
NRM 140 The Climatic Factor	NRM 451 Natural Resource Policy
NRM 380 Special Topics (also NRM 180, 280, 480)	NRM 386 Ecological Restoration and Management
NRM 240 Principles of Climatology	NRM 486 Advanced Restoration Ecology
NRM 330 Environmental Pollution	NRM 490 Internship in Resource Management
NRM 399 Readings in Resource Management	NRM 499 Research in Resource Management
NRM 420 Wildland Recreation Mgmt.	

Notes:

-NRM 180, 280, 380 and 480 are designations for a special topics class. You may take multiple classes with an NRM X80 designation because each class will cover a different topic.

-No more than 3 credits of NRM 399 (readings) will be counted towards the major.

-No more than 3 credits of NRM 499 (research) will be counted towards the major.

-No more than 5 credits of NRM 490 (internship) and NRM 499 (research) total can be applied to the major.

-BIO 417 and BIO 418 are field trip classes. You MAY be able to count these classes as core classes (NRM credit) but you MUST check with your advisor BEFORE you take the class. No more than 6 credits can be applied to the major.