

NATURAL RESOURCE MANAGEMENT- RESOURCE ANALYSIS METHODS

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 that the MTH 110 requirement has been fulfilled. If MTH 110 is needed, students should take the course in the first semester in place of the chemistry option.

Year One			
¹ BIO 120 General Biology I Prerequisites: High school chemistry, CHM 109, or CHM 115 strongly recommended (CHM 109 or 115 may be taken concurrently with BIO 120) See notes below regarding BIO 120/121 option	4	¹ BIO 121 General Biology II See notes below regarding BIO 120/121 option	4
CHM 109 Introductory Chemistry	4	NRM 150 Introduction to Natural Resources	3
OR CHM 115 Principles of Chemistry I Prerequisites: High school chemistry and (MTH 110 or MTH 122 or MTH 125 or MTH 201)		**MTH 122 College Algebra Prerequisite: MTH 110 or proficiency through math placement – see notes below regarding math placement	3
Gen Ed – choose two or WRT 098 (self-placement)	3-4	WRT 150 Strategies in Writing	4
Elective – choose any 1 credit course to reach 15 for the semester	1	Elective – choose any 1 credit course to reach 15 credits for the semester	1
Total	15	Total	15
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
NRM 250 Resource Measurements and Maps	3	STA 215 Introductory Applied Statistics Prerequisite: MTH 110 or equivalent	3
Gen Ed	3	ECO 211 Introductory Microeconomics Prerequisites: MTH 110 or MTH 122 or MTH 201, sophomore standing recommended	3
² NRM Cognate Group Course or Core Elective	3/4	GEO 111 Exploring the Earth	4
		Gen Ed	3
Total	14-15	Total	16*
Year Three			
NRM 450 Applied Spatial Analysis of Natural Resources Prerequisite: NRM 395 or GPY 307	3	NRM 320 Introduction to Resource Systems Prerequisites: BIO 215 and MTH 122	3
³ NRM Cognate Group Course	3/4	³ NRM Cognate Group Course	3/4
² NRM Core Electives	6/7	² NRM Core Electives	6/7
Gen Ed	3	Gen Ed/Issue	3
Total	15-16	Total	15-16
Year Four			
BIO 460 Terrestrial Ecosystem Ecology Prerequisites: BIO 215; NRM 281 recommended	4	⁴ NRM 495 SWS Trends in Natural Resources Mgt OR NRM 496 + 497 (Capstone) Prerequisites: Completion of 20 credits in NRM, STA 215	4
² NRM Core Electives	6/7	² NRM Core Elective	3/4
Gen Ed/Issue	3	² NRM Core Elective	3/4
		Gen Ed	3
Total	14-15	Total	13-15

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

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

****Students who have fulfilled the MTH 122 requirement based on ACT scores are still required to complete a college level mathematics course higher than MTH 110. Students should choose from MTH 123, 125 or 201.**

¹Students have the option of starting in BIO 120 or 121 in the fall semester. BIO 120 requires a prerequisite of high school chemistry or CHM 109 or 115 (can be taken concurrently). **Students who have an ACT science sub-score of 22 and below should start with BIO 121.**

²NRM majors must complete a total of 40 credits of NRM courses with a GPA of 2.0 or better. NRM 250, 395, and 450 are required for the Resource Analysis Methods emphasis. Please see reverse for additional NRM options.

³NRM majors must complete a minimum of 40 credits of cognate courses (These cannot have NRM prefixes). Please see reverse for cognate courses. Resource Analysis Methods students must complete one group of cognate courses are. Groups include: Computer Science, Statistics, and Spatial Methods.

⁴Students must complete a total of two courses with an SWS attribute.

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.

Your academic advisor in the CLAS Academic Advising Center is Betty Schaner (schanerb@gvsu.edu)

Online at: <http://www.gvsu.edu/clasadvising>

Bachelor of Science Degree

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 - Resource Analysis Methods 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 Resource Analysis Methods"
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
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	

Complete ONE of the following GROUPS of cognate courses to reach a total of 40 cognate credits:

Computer Science	Statistics	Spatial Methods
CIS 160 Programming with Visual Basic	STA 216 Intermediate Applied Statistics	Choose three courses from the following:
CIS 231 Problem Solving Using Spreadsheets	STA 315 Design of Experiments	GPY 307 Introduction to Computer Mapping/Geographic Info Systems
CIS 233 Concepts of Database Systems	And ONE of the following:	GPY 370 Introduction to Remote Sensing
	STA 317 Nonparametric Statistical Analysis	GPY 407 Advanced GIS
	STA 321 Applied Regression Analysis	GPY 470 Digital Image Processing
	STA 416 Multivariate Data Analysis	

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 399 Readings in Resource Management
NRM 380 Special Topics (also NRM 180, 280, 480)	NRM 420 Wildland Recreation Mgmt.
NRM 240 Principles of Climatology	NRM 451 Natural Resource Policy
NRM 281 Principles of Soil Sciences	NRM 452 Watershed and Wetland Management
NRM 308 Wildlife Ecology	NRM 462 Forest Ecosystem Management
NRM 330 Environmental Pollution	NRM 486 Advanced Restoration Ecology
NRM/BIO 386 Ecological Restoration and Management	NRM 490 Internship in Resource Management
	NRM 499 Research in Resource Management

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.