NATURAL RESOURCES 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 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 and move chemistry to the winter semester in place of the elective 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 | 4 | ¹ BIO 121 General Biology II Prerequisites: MTH 110 or may be taken concurrently See notes below regarding BIO 120/121 option | 4 |
| 120) See notes below regarding BIO 120/121 option CHM 109 Introductory Chemistry | 4 | ★NRM 150 Introduction to Natural Resources OR Gen Ed | 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 OR MTH 123 Trigonometry OR MTH 125 Survey of Calculus OR MTH 201 Calculus 1 | 3/4 |
| ★ NRM 150/Gen Ed/WRT 098 – choose two Elective – choose any 1 credit course to reach 15 for the semester | 6/7 1 | Prerequisite: proficiency through math placement – see notes below regarding math placement | 4 |
| · | _ | WRT 150 Strategies in Writing Elective — choose any 1 credit course to reach 15 credits for the semester if needed | 1 |
| ★NRM 150 can be taken in either semester during the first | _ | | |
| Total | 15 | Total | 15/16 |
| | Year | | 1 |
| BIO 215 Ecology Prerequisite: BIO 120 and BIO 121 (BIO 120 may be taken concurrently) 2NRM 250 Resource Measurements and Maps | 4 3 4 | NRM Analytical Elective – Choose from: NRM 320 Introduction to Resource Systems Prerequisites: BIO 215 and MTH 122 OR NRM 395 GIS Application in Resource Management | 3 |
| ² NRM 281 Principles of Soil Science Prerequisite: CHM 109 or CHM 115 | 3 | Prerequisites: GPY 307 or NRM 250 NRM Elective | 3 or 4 |
| Gen Ed Elective — choose any 1 credit course to reach 15 for the semester | 1 | STA 215 Introductory Applied Statistics Prerequisite: MTH 110 or equivalent | 3 |
| | | ECO 211 Introductory Microeconomics Prerequisites: MTH 110 or MTH 122 or MTH 201, soph standing | 3 |
| | | Gen Ed | 3 |
| Total | 15 | Total | 15/16* |
| | Year 1 | | 1 |
| NRM 451 Natural Resource Policy Prerequisite: Junior Standing | 3 | NRM Upper Level Electives Gen Ed w/SWS designation | 9/10 3 |
| ² NRM Upper Level Electives (see reverse side for options) ECO 345 Environmental and Resource Economics ³ Gen Ed or Elective | 6/7 3 3 | ³ Gen Ed or Elective | 3 |
| Total | 15-16 | Total | 15-16 |
| | Year | | 1 |
| BIO 460 Terrestrial Ecosystem Ecology Prerequisites: BIO 215; NRM 281 recommended | 4 | NRM 495 SWS Trends in Natural Resources Mgt OR NRM 496 + 497 (Capstone) | 4 |
| NRM Upper Level Elective | 3/4 | Prerequisites: Completion of 20 credits in NRM, STA 215 | |
| NRM Upper Level Elective | 3/4 | NRM Upper Level Elective | 3/4 |
| ³ Elective | 3/4 | ³ Elective ³ Elective | 3/4 3/4 |
| Total | 15-16* | Total | 15-16* |

^{*}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 an ACT science sub-score of 22 and below should start with BIO 121.

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

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

¹ Students 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). BIO 121 as a pre- or co-requisite of MTH 110.

²NRM majors must complete a total of **36 credits of NRM courses** with a GPA of 2.0 or better. Please see reverse for additional NRM options. ³Students should consider adding a complementary minor or certificate – speak with an academic advisor to discuss options.

Declaring the Natural Resources 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 Resource Management-BS"
- 5. Click "Submit" and then "Change to New Program"

General Education Overlap

| General Education Categories fulfilled by the Natural Resources Management Major: | | |
|-----------------------------------------------------------------------------------|------------------------------------------------|--|
| Life Sciences with Lab: BIO 120 | Physical Sciences with Lab: CHM 109 or CHM 115 | |
| Mathematical Sciences: MTH 122, 123, 125, 201 or STA 215 | Social and Behavioral Sciences: ECO 211 | |
| Issues: NRM 451, ECO 345 | | |

| Natural Resources Management Cognate Requirements There are a minimum of 32 credits of cognates required in the curriculum: | | | |
|------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------|--|--|
| | | | |
| OR MTH 123 Trigonometry | CHM 109 Introductory Chemistry | | |
| OR MTH 125 Survey of Calculus | or CHM 115 Principles of Chemistry I | | |
| OR MTH 201 Calculus I | ECO 211 Microeconomics | | |
| BIO 120 General Biology I | ECO 345 Environmental and Resource Economics | | |
| BIO 121 General Biology II | STA 215 Introductory Applied Statistics | | |
| BIO 215 Ecology | | | |
| | | | |

Natural Resources Management Competency Requirements

NRM 150 – Introduction to Natural Resources Management (3 cr)

NRM 250 – Resource Measurements and Maps (3 cr)

NRM 281 - Principles of Soil Science (4 cr)

NRM 451 - Natural Resource Policy (3 cr)

NRM Capstone (495 or 496+497) (4 cr)

Analytical - Choose one course from:

NRM 320 - Introduction to Resource Systems (prerequisites: BIO 215 and MTH 122)

NRM 395 - GIS Applications in Resource Management (prerequisites: GPY 307 or NRM 250)

Upper Level Resource Management Options - choose at least 10 credits from the following:

NRM 330 - Environmental Pollution (3 cr) (prerequisites: BIO 215 and MTH 122)

NRM/BIO 386 – Ecological Restoration and Management (4 cr) NRM students should choose the NRM option when registering (prerequisites: BIO 215)

NRM/BIO 408 – Wildlife Management (4 cr) NRM students should choose the NRM option when registering (prerequisites: BIO/NRM 308)

NRM 420 - Wildland Recreation Management (3 cr)

NRM 452 - Watershed and Wetland Management (4 cr) (prerequisites: MTH 122, NRM 150, NRM 250)

NRM 462 - Forest Ecosystem Management (4 cr) (prerequisites: NRM 150, NRM 250)

Natural Resources Management Electives

NRM majors must complete a total of at least 36 credits of NRM courses with a GPA of 2.0 or better. Choose electives from the list below or choose additional Upper Level Resource Management options.

NRM 240 Principles of Climatology (4 cr)
NRM 308 Wildlife Ecology (4 cr) (prerequisites: BIO 215)
NRM 380 Special Topics (also NRM 180, 280, 480)
NRM 399 Readings in Resource Management
NRM 407 NRM and Society: Study Abroad
NRM 417 NRM International Field Studies

NRM 450 Applied Spatial Analysis of Natural Resources (3 cr)
(prerequisites: NRM 395 or GPY 307)
NRM 486 Advanced Restoration Ecology (3 cr)
(prerequisites: NRM/BIO 386)
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.