

# ***AA General Studies – Natural Resource Option***

## ***Natural Resource/Geospatial Technology***

### **PHILOSOPHY:**

The Natural Resources curriculum provides students who are passionate and curious about the natural world training and knowledge that will (1) Prepare graduates to obtain employment in tribal Natural Resource programs, (2) Provide the relevant educational foundation for students to transfer to a four-year Natural Resource program. Students will increase their understanding of the physical, chemical, and ecological principles underlying natural resources, and acquire solid Intro to geospatial technology.

### **EXPECTED LEARNER OUTCOMES:**

Students will:

1. Demonstrate an understanding of the principles of gravitation as well as how gravitation applies in the deployment of satellite systems used by Natural Resource Managers.
2. Demonstrate an understanding of Electromagnetic radiation and describe the role Electromagnetic radiation plays in GPS and Geospatial technology.
3. Demonstrate skill in the use of Dimensional Analysis to solve problems in Chemistry and Physics.
4. Describe photosynthesis on the physical, chemical, biological, and geospatial levels.
5. Perform physical and chemical experiments where data is: collected, summarized, and analyzed. Then, draw conclusions from the experimental data.
6. Know the basic Geographical and Information Systems concepts underlying Geographic Information Systems.
7. Perform spatial Joins, Queries, and Geo-processing and Editing of map objects using GIS.
8. Know the theoretical principles underlying GPS systems.
9. Know how to use GPS systems to acquire geographic data and perform necessary data procession steps necessary to use GPS generated data in a GIS.
10. Perform all steps of a GIS project from inception to presentation of results using presentation software.

## COURSE REQUIREMENTS:

Students will complete the GENERAL EDUCATION and the PROFESSIONAL CORE degree requirements as outlined in the appropriate sections.

<b>GENERAL EDUCATION</b>	<b>34 CREDITS</b>
General Education Natural Sciences: BIOS 101: General Biology (4 credits)	
<b>PROFESSIONAL CORE</b>	<b>34 CREDITS</b>
CHMY 141: General Chemistry I (3 credits)	
CHMY 142: General Chemistry I Lab (1 credit)	
CHMY 143: General Chemistry II (3 credits)	
CHMY 144: General Chemistry II Lab (1 credit)	
NR 131: Geographic Information Systems I (3 credits)	
NR 201: Geographic Information Systems II (3 credits)	
NR 220: GPS Principles and Practices (3 credits)	
NR 290: Natural Resource/Geospatial Technology Capstone (3 credits)	
PHSX 205N: Fundamentals of Physics I (3 credits)	
PHSX 206N: Fundamental of Physics I Lab (1 credits)	
PHSX 207N: Fundamentals of Physics II (3 credits)	
PHSX 208N: Fundamental of Physics II Lab (1 credits)	
Electives* (6 credits)	
<b>TOTAL CREDIT REQUIREMENTS</b>	<b>68 CREDITS</b>

\*Electives select from the following list of courses:

- BIOS 114: Intro to Botany (4 credits)
- BIOS 200: General Ecology (4 credits)
- CHMY 123: Intro to Organic & Biochemistry (3 credits)
- CHMY 124: Intro to Organic and Biochemistry (1 credit)
- CSCI 150: Intro to AUTOCAD (3 credits)
- ENGI 120: Surveying I (3 credits)
- ESCI 100: Environmental Measurement (3 credits)
- ESCI 150: Atmospheric Science (4 credits)
- ESCI 210: Intro to Soil Science (4 credits)
- M 151: Precalculus (3 credits)
- M 171: Calculus I (5 credits)
- STAT 216: Intro to Statistics (3 credits)

