

# NATURAL RESOURCES-AS

## Program Overview

### Associate of Science - National Resources (Pattern of Study)

#### Student Learning Outcomes

The pattern of study provides students with courses that prepare them for a baccalaureate degree in natural resources, biology, wildlife biology, range management, forestry, environmental studies and management, and other types of natural resource degrees.

Upon completion of the pattern of study, students will earn an AS degree and have the ability to:

- Transfer to a four-year level natural resources degree program.
- Effectively communicate basic science principles related to natural resources.
- Identify relationships between human activities, biological systems, and the physical environment.
- Work as a technician in jobs requiring skills in natural resources.

#### General Education Requirements

##### Communications and Expressions

##### Written Communications (one course required)

**ENG 100      Composition-Enhanced      5 Credits**  
Allows students to fulfill their first semester of English while completing the remediation process. Designed for students who did not place into ENG 101 on the placement test/writing sample, but did not score so low that they need ENG 95. Allows a student to refine specific skill deficiencies while completing the first semester of freshman composition (ENG 100 is equivalent to ENG 101). Students will have additional Academic Success Center requirements. Although it is a five-credit course, it does not replace ENG 102. After successful completion of ENG 100, a student must take ENG 102 to complete the general education requirement.

**ENG 101      Composition I      3 Credits**  
Critical reading and writing of the expository essay. Emphasizes pre-writing, strategies for organization, and revision.

##### Oral Communications (one course required)

**COM 113      Fund Speech Communication      3 Credits**  
Principles and theories of speech communication. Participation in public speaking and interpersonal communication activities.

**THTR 221      Oral Interpretation      3 Credits**  
Introduction to and practice of oral interpretation of literary and dramatic works from Shakespeare to contemporary writers and poets.

##### Evidence-Based Communications

**ENG 102      Composition II      3 Credits**  
Continuation of English 101. Emphasizes writing from sources, argument, the investigative paper, and research techniques.

##### Fine Arts (one course required)

**ART 100      Visual Foundations      3 Credits**  
A beginning art class that includes a survey of art and the basic components of design. The class explores visual concepts as they relate to the history of art through class presentations, discussions, and a variety of media. Students should plan for three hours of studio work outside the class.

**ART 101      Drawing I      3 Credits**  
A disciplined foundation in drawing concepts based on visual observation skills.

**ART 107      Design Fundmntls I (2-D)      3 Credits**  
Explores the fundamentals of design using various media focusing on 2-D design.

**ENG 205      Intro to Creative Writing      3 Credits**  
A creative writing course designed to introduce students to the production of fiction and poetry.

**MUS 101      Music Fundamentals      3 Credits**  
Notation, terminology, intervals, and scales. Designed to furnish a foundation for musicianship. Recommended for teachers in public schools and all others desiring a basic music background.

**THTR 100      Introduction to Theatre      3 Credits**  
A survey of the basic principles, facts, and theories providing an understanding of the art of theatre. Course also includes a special focus on the practical technical aspects of the theatre and on live theatre experiences.

**THTR 105 Introduction to Acting I 3 Credits**  
Examines acting fundamentals and focuses on development of vocal, physical, and creative tools to be used on stage.

**THTR 121 Stage Makeup 3 Credits**  
This course focuses on the history of makeup and basic approaches to applying make-up for the stage and screen. Make-up supplies will be studied, as well as techniques for corrective, old-age, character, stylized, and special effects makeup.

**THTR 204 Theatre Technology I 3 Credits**  
Lecture and discussion encompassing the philosophy and techniques of technical theatre.

**WELD 200 Metal Art 3 Credits**  
This course is designed to give the student the basic understanding of two dimensional 2D and three-dimensional 3D metal art. Also covered in this course we will discuss different Cutting, Welding and metal finishing techniques that are used in this discipline as it relates to metal art.

### Logical and Scientific Reasoning

**Mathematical Reasoning (one course required):** Choose from the courses listed below or any higher-level math course (MATH 389 excluded).

**MATH 126 Precalculus I 3 Credits**  
A third course in algebra that stresses polynomial, quadratic, rational, exponential, and logarithmic functions, including their graphs and applications; complex numbers; systems of equations; and basic operations with matrices and determinants, including Cramer's rule. It is recommended that students have completed prerequisites within two years of enrolling in this course.

**MATH 126E Precalculus I Expanded 3 Credits**  
Precalculus I Expanded with Co-requisite support: Includes equations, relations, functions, graphing; polynomial, rational, exponential, logarithmic, and circular functions with applications; coordinate geometry of lines and conics; analytic trigonometry; matrices and determinants; and binomial theorem. It is recommended that students have completed prerequisites within two years of enrolling in this course.

### Scientific Reasoning

**GEOL 101 Exploring Planet Earth 3-4 Credits**  
Fundamental principles of geology including tectonic and surficial processes, oceans, atmosphere, environmental applications, and resources. Includes a laboratory component.

### Scientific Data Interpretation

**CHEM 121 General Chemistry I 4 Credits**  
Fundamentals of chemistry including reaction stoichiometry, atomic structure, chemical bonding, molecular structure, states of matter, and thermochemistry.

### Human Societies and Experience

#### Structure of Societies

**ANTH 101 Intro Cultural Anthropology 3 Credits**  
Study of human cultures across the globe through examination of the basic principles underlying the organization of societies and the ways anthropologists analyze various parts of culture. Students will become familiar with the glue that holds all groups of people together, and how that glue can divide groups of people in profound ways.

**American Constitutions and Institutions:** HIST 101 and 102 or PSC 101

**HIST 101 U.S. History to 1877 3 Credits**  
Survey of U.S. political, social, economic, diplomatic, and cultural development from colonial times through Reconstruction. When taken with HIST 102 satisfies the GBC General Education American Constitutions and Institutions Requirement. HIST 101 and 102 need not be taken sequentially. Either class may be taken alone.

**HIST 102 U.S. History Since 1877 3 Credits**  
Survey of U.S. political, social, economic, diplomatic, and cultural development from 1877 to the present. Course satisfies the Nevada Constitution Requirement. When taken with HIST 101 satisfies the GBC General Education American Constitutions and Institutions Requirement. Can be used to satisfy the Nevada Constitution Requirement for out-of-state transfer students who have previously satisfied the United States Constitution Requirement. HIST 101 and 102 need not be taken sequentially. Either class may be taken alone.

**PSC 101 Intro American Politics 3 Credits**  
A survey of United States, national, state, and local governments with emphasis on the cultural aspects of the governing process. Satisfies the legislative requirement for the United States and Nevada Constitutions.

**Humanities (one course required)**

<b>ART 160</b>	<b>Art Appreciation</b>	<b>3 Credits</b>
Introduction to the visual arts, illustrating the place of art in its social and cultural setting.		
<b>ENG 203</b>	<b>Intro to Literary Study</b>	<b>3 Credits</b>
Introduction to the elements of fiction, poetry, and drama used in the analysis of literature.		
<b>ENG 223</b>	<b>Themes of Literature</b>	<b>3 Credits</b>
Themes and ideas significant in literature.		
<b>FIS 100</b>	<b>Introduction to Film</b>	<b>3 Credits</b>
Introduction to the historical development of film as art. Considers the development of cinematic techniques (i.e., cinematography, editing, sound, etc.), cinematic genres (i.e., the western, romantic comedy, etc.) and narrative elements (i.e., plot, character, conflict, etc.) as exemplified by the work of major American and international directors.		
<b>FREN 111</b>	<b>First Year French I</b>	<b>3-4 Credits</b>
Development of language skills through practice in listening, speaking, reading, writing, and structural analysis. Language practice required.		
<b>FREN 112</b>	<b>First Year French II</b>	<b>3-4 Credits</b>
A continuation of FREN 111. Language practice required.		
<b>HIST 208</b>	<b>World History I</b>	<b>3 Credits</b>
Survey of world civilizations to 1600. Examines societies, cultures, and issues relative to Africa, the Americas, Asia, Europe, the Middle East and Oceania.		
<b>HIST 209</b>	<b>World History II</b>	<b>3 Credits</b>
Survey of world civilizations since 1600. Examines historical societies, cultures, and issues relative to Africa, the Americas, Asia, Europe, the Middle East, and Oceania.		
<b>HUM 101</b>	<b>Intro to Humanities I</b>	<b>3 Credits</b>
An introduction to humanities through a study of seven major arts including film, drama, music, literature, painting, sculpture, and architecture. Each of these arts is considered from the perspective of historical development, the elements used in creating works of art, meaning and form, and criticism and critical evaluation.		
<b>HUM 210</b>	<b>Communicating Diversity</b>	<b>3 Credits</b>
Communicating Diversity is a lower division course designed to familiarize students with the fundamentals of diversity and how those are expressed through communication. Students will develop a deep understanding of the way in which we communicate race, gender, class, sexual orientation, nationality, religion, and physical/mental ability and how it impacts our daily lives. This course will take an intersectional approach to understanding diversity and seek communication strategies for inclusivity. Emphasis will be placed on defining and developing the critical thinking skills necessary to push past oppression, marginalization, and other issues centralized around diverse populations. Students will be encouraged to investigate and discover diversity issues, solutions, and concepts at the local and global level using case studies, current events, and other significant moments in history.		
<b>MUS 121</b>	<b>Music Appreciation</b>	<b>3 Credits</b>
The historical and cultural background of music and origins to the twentieth century.		
<b>PHIL 101</b>	<b>Intro to Philosophy</b>	<b>3 Credits</b>
Basic problems in different areas of philosophy such as ethics, political theory, metaphysics, and epistemology.		
<b>PHIL 102</b>	<b>Critical Thinking</b>	<b>3 Credits</b>
Covers non-symbolic introduction to logical thinking in everyday life, law, politics, science, advertising; common fallacies; and the uses of language, including techniques of persuasion.		
<b>PHIL 135</b>	<b>Introduction to Ethics</b>	<b>3 Credits</b>
Introduction to Ethics: critical introduction to classical and modern ethical theories such as utilitarianism, deontology, and virtue ethics. Emphasis throughout on applying the theories in various contexts such as social, political, or interpersonal. The ultimate goal will be to allow students to clarify their own thinking and positions on important ethical issues confronting society today.		
<b>SPAN 111</b>	<b>First Year Spanish I</b>	<b>3 Credits</b>
Development of language skills through practice in listening, speaking, reading, writing, and structural analysis. Language practice required.		
<b>SPAN 112</b>	<b>First Yr Spanish II</b>	<b>3 Credits</b>
A continuation of SPAN 111. Language practice required.		
<b>SPAN 211</b>	<b>Second Year Spanish I</b>	<b>3 Credits</b>
Considers structural review, conversation and writing, and readings in modern literature.		
<b>Technological Proficiency</b>		
<b>GIS 109</b>	<b>Intro Geogrphc Info Syst</b>	<b>3 Credits</b>
An introduction to Geographic Information Systems (GIS) covering the basic concepts. Principles of cartography and spatial analysis are presented. The intent is to prepare the student for advanced training using specific GIS software.		

## Foundations

## Mathematics

**STAT 152 Intro to Statistics****3 Credits**

Includes descriptive statistics, probability models, random variables, statistical estimation and hypothesis testing, linear regression analysis, and other topics. Designed to show the dependence of statistics on probability. It is recommended that students have completed prerequisites within two years of enrolling in this course.

## Science

**BIOL 190 Intro Cell/Molecular Biology****4 Credits**

Structure and function of cells. Major molecules of life; composition and physiology of cellular organelles; cell metabolism, reproduction, motility, and gene function of both plant and animal cells. Required for biology majors. Concurrent enrollment in a corresponding lab section is required for this course.

## Program Requirements

**BIOL 191 Intro Organismal Biology****4 Credits**

The study of the evolution, ecology, and diversity of life, both past and present. Required for biology majors, but will partially satisfy the science requirement for all associate's degrees. Concurrent enrollment in a corresponding lab section is required for this course.

**CHEM 122 General Chemistry II****4 Credits**

Fundamentals of chemistry including solutions, kinetics, equilibria, thermodynamics, electrochemistry, nuclear chemistry, and properties of inorganic and organic compounds. Also, introduction to qualitative analysis.

**ENV 100 Humans and the Environment****3 Credits**

Introduction to the relationship of man and his environment. Current thinking and research concerning the impact of industrialization and urbanization on environmental quality, including the population explosion; the potential decline of the affluent society by the depletion of natural resources; the pollution of air, land surface, and water; and the public agencies and policies designed to solve environmental problems.

**GEOL 102 Earth/Life Through Time****4 Credits**

The history of the earth and life as they have evolved together through time: plate tectonics, the physical landscape, and the biosphere. Includes laboratory for evaluating rocks, fossils, and the age of events.

## Elective (choose with advisor)

## Suggested Course Sequence

## 1st Semester - Fall

Course	Credits
CHEM 121	4
ENG 100 or 101	3-5
GEOL 101	4
Mathematics*	3-6
TOTAL	14-19

\*Choose with advisor

## 2nd Semester - Spring

Course	Credits
Oral Communications*	3
CHEM 122	4
ENG 102	3
STAT 152	3

Course	Credits
TOTAL	13

\*Choose with advisor

### 3rd Semester - Fall

Course	Credits
BIOL 190	4
Fine Arts*	3
GEOL 102	4
American Constitutions*	3
General Elective*	3
TOTAL	17

\*Choose with advisor

### 4th Semester - Spring

Course	Credits
ANTH 101	3
BIOL 191	4
GIS 109	3
ENV 100	3
Humanities*	3
TOTAL	16

\*Choose with advisor