

Student Learning Outcomes for Select Programs and Certificates within the Agriculture and Natural Resources Department

Submitted by Ken Nolte (Instructor and Faculty Coordinator for AG/NR Dept.)

Primary *Student learning outcomes* for the **Forest Science and Technology A.S. degree Program** are listed below.

1. The student will have the appropriate coursework and field experience to pursue seasonal Forestry Technician jobs or to transfer to a University in a Forestry-related field.
2. The student will be able to properly identify all common species of trees and shrubs native to the Western US by their scientific and common names and to discuss general uses, site characteristics, and geographic distributions of these species.
3. The student will be able to apply knowledge of the Silvicultural treatments used to regulate stand composition, regenerate stands, increase growth rates, and improve timber quality.
4. The student will be able to apply skills in the safe use and maintenance of tools and equipment.
5. The student will be able to apply computer skills using Forestry-related software.
6. The student will be able to select and implement an appropriate protocol following the scientific method to collect, statistically analyze, evaluate, and document original research data.
7. The student will be able to accurately navigate in the field using maps, compass, a Global Positioning System (GPS). Students will also be able to use GPS for field data collection and Geographic Information Systems (GIS) for data mapping and display.
8. The student will be able to evaluate basic theory, concepts, and ecological principles as they apply to Forestry, Wildlife, Water Resources, and Ecosystem Restoration and will use his/her cumulative skills to think critically and to work out possible solutions to address problems facing Natural Resources managers today and in the future..
9. The student will be able to apply fundamentals of Wildland fire ecology, behavior, and suppression techniques.

Primary *Student learning outcomes* for the **Natural Resources A.S. degree Program** are listed below.

1. The student will have sufficient coursework and field experience to pursue seasonal technician jobs or to transfer to a University in a Natural Resources-related field.
2. The student will be able to use a taxonomic key or field guide to correctly identify unknown species of plants, birds, mammals, and aquatic invertebrates to the level of genus.
3. The student will be able to select and use an appropriate protocol following the scientific method to collect, statistically analyze, evaluate, and document original research data.
4. The student will be able to accurately navigate in the field using maps, compass, a Global Positioning System (GPS). Students will also be able to use GPS for field data collection and Geographic Information Systems (GIS) for data mapping and display.
5. The student will be able to evaluate basic theory, concepts, and ecological principles as they apply to Forestry, Wildlife, Water Resources, and Ecosystem Restoration and will use his/her cumulative skills to think critically and to work out possible solutions to address problems facing Natural Resources managers today and in the future.

Primary *Student learning outcomes* for the **Natural Resources Certificate** are listed below.

1. The student will be qualified to pursue seasonal job employment with the Federal Government, a State Agency, or a Private company in a field related to Forestry & Natural Resources.
2. The student will be able to use a specified protocol following the scientific method to collect, analyze, evaluate, and document original research data.
3. The student will be able to accurately navigate in the field using maps, compass, a Global Positioning System (GPS). Students will also be able to use GPS for field data collection and Geographic Information Systems (GIS) for data mapping and display.
4. The student will be able to evaluate basic theory, concepts, and ecological principles as they apply to Forestry, Wildlife, Water Resources, and Ecosystem Restoration and will use his/her cumulative skills to think critically and to work out possible solutions to address problems facing Natural Resources managers today and in the future.

Primary *Student learning outcomes* for the **Watershed Restoration Certificate** are listed below.

1. The student will be able to apply the newest technologies and practices in erosion control in restoring an ecosystem
2. The student will be able to apply the latest techniques in bio-engineering applications
3. The student will be able to select and implement an appropriate method or procedure for monitoring a specific attribute of the environment.
4. The student will be able to operate and maintain heavy equipment resulting in minimum impact to the watershed.
5. The student will be able to accurately navigate in the field using maps, compass, a Global Positioning System (GPS). Students will also be able to use GPS for field data collection and Geographic Information Systems (GIS) for data mapping and display.

Matrix for the **Forest Science and Technology A.S. degree**

SLO	NR1	NR6	NR8	NR10	NR50	NR51	NR53	NR54	NR55	NR64	NR65	NR66	NR70	NR83	NR94	ENVR52	FIRS 118
1	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
2	X	X					X				X	X					
3						X	X										
4	X				X		X		X		X	X		X			
5			X	X	X						X	X		X		X	
6	X				X	X	X			X	X	X	X				
7	X			X	X	X	X		X		X	X	X	X	X		
8	X			X	X	X	X			X	X	X	X		X	X	
9	X					X	X				X		X				X

Matrix for the **Natural Resources A.S. degree**

SLO	NR1	NR6	NR8	NR10	NR50	NR59	NR64	NR65	NR66	NR70	NR83	NR94	ENVR24	ENVR44	ENVR52	ENVR60
1	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
2	X	X			X		X			X		X				
3	X				X		X	X	X	X		X	X			
4	X			X	X			X	X	X	X	X			X	
5	X	X		X	X	X	X	X	X	X		X	X			X

Matrix for the **Natural Resources Certificate**

SLO	NR1	NR6	NR10	NR50	NR65	NR66	NR70	NR83	NR94	ENVR52
1	X	X	X	X	X	X	X	X	X	X
2	X			X	X	X	X		X	
3	X		X	X	X	X	X	X	X	X
4	X	X	X	X	X	X	X	X	X	

Matrix for the **Watershed Restoration Certificate**

SLO	CONS46	ENVR47	NR10	NR50	NR64	NR66
1		X				X
2						X
3				X	X	X
4	X	X				
5			X	X		X