

# FOREST SCIENCE, BS

## LEARNING OUTCOMES

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1. (Ecology) Understanding of taxonomy and ability to identify forest and other tree species, their distribution, and associated vegetation and wildlife.
2. (Ecology) Understanding of soil properties and processes, hydrology, water quality, and watershed functions.
3. (Ecology) Understanding of ecological concepts and principles including the structure and function of ecosystems, plant and animal communities, competition, diversity, population dynamics, succession, disturbance, and nutrient cycling.
4. (Ecology) Ability to make ecosystem, forest, and stand assessments.
5. (Ecology) Understanding of tree physiology and the effects of climate, fire, pollutants, moisture, nutrients, genetics, insects and diseases on tree and forest health and productivity.
6. (Forest Resources Measurement and Management) Ability to identify and measure land areas and conduct spatial analysis.
7. (Forest Resources Measurement and Management) Ability to design and implement comprehensive inventories that meet specific objectives using appropriate sampling methods and units of measurement.
8. (Forest Resources Measurement and Management) Ability to analyze inventory data and project future forest, stand, and tree conditions.
9. (Forest Resources Measurement and Management) Ability to develop and apply silvicultural prescriptions appropriate to management objectives, including methods of establishing and influencing the composition, growth, and quality of forests, and understand the impacts of those prescriptions.
10. (Forest Resources Measurement and Management) Ability to analyze the economic, environmental, and social consequences of forest resource management strategies and decisions.
11. (Forest Resources Measurement and Management) Ability to develop management plans with specific multiple objectives and constraints.
12. (Forest Resources Measurement and Management) Understanding of the valuation procedures, market forces, processing systems, transportation and harvesting activities that translate human demands for timber-based and other consumable forest products into the availability of those products.
13. (Forest Resources Measurement and Management) Understanding of the valuation procedures, market, and non-market forces that avail humans the opportunities to enjoy non-consumptive products and services of forests.
14. (Forest Resources Measurement and Management) Understanding of the administration, ownership, and organization of forest management enterprises.
15. (Forest Resource Policy, Economics, and Administration) Understanding of forest policy and the processes by which it is developed.
16. (Forest Resource Policy, Economics, and Administration) Understanding of how federal, state, and local laws and regulations govern the practice of forestry.
17. (Forest Resource Policy, Economics, and Administration) Ability to understand the integration of technical, financial, human resources, and legal aspects of public and private enterprises.