• Ability in preparing, and delivering effective oral presentations.

• A proficiency in English composition, technical/business writing, and writing for non-professional audiences.

• Ability to read with comprehension a variety of documents, and critically evaluate opposing viewpoints.

• An understanding of the components, patterns, and processes of biological and ecological systems across spatial and temporal scales,
• Understanding of molecular biology, cells, organisms, populations, species, communities, and ecosystems.

• Understanding of physical and chemical properties, measurements, and structure and states of matter.

• Ability to understand and use the basic approaches and applications of mathematics and statistics for analysis and problem solving as appropriate for the programs stated outcomes.

• Understanding of, and an ability to address, moral and ethical questions and an ability to use critical reasoning skills.
• Understanding of human behavior including public and private social and economic structures, processes, and institutions of importance across a broad range of societies.
• Understanding of the diverse dimensions of the human experience and culture.

• Ability to use computers and other contemporary electronic technologies in professional life

• Understanding of taxonomy and ability to identify forest and other tree species, their distribution, and associated vegetation and wildlife.

• Understanding of soil properties and processes, hydrology, water quality, and watershed functions.

• 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.

• Ability to make ecosystem, forest, and stand assessments.

• Understanding of tree physiology and the effects of climate, fire, pollutants, moisture, nutrients, genetics, insects and diseases on tree and forest health and productivity.

• Ability to identify and measure land areas and conduct spatial analysis.

• Ability to design and implement comprehensive inventories that meet specific objectives using appropriate sampling methods and units of measurement.
• Ability to analyze inventory data and project future forest, stand, and tree conditions.

• Knowledge of statistical sampling methods and ability to conduct and analyze inventory data to model future urban forest changes, assess green space, and monitor tree health.
• Knowledge of spatial analysis and ability to utilize GIS and remote sensing tools/skills in urban-rural interfaces.

• The ability to understand and apply appropriate appraisal methods to value urban trees taking into account species, site, landscape location, condition and market value.

• 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.

• Ability to analyze the economic, environmental, and social consequences of forest resource management strategies and decisions.

• Ability to develop management plans with specific multiple objectives and constraints.

• 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.

• Understanding of the valuation procedures, market, and non-market forces that avail humans the opportunities to enjoy non-consumptive products and services of forests.

• Understanding of the administration, ownership, and organization of forest management enterprises.

• Understanding of forest policy and the processes by which it is developed.

• Understanding of how federal, state, and local laws and regulations govern the practice of forestry.

• Understanding of professional ethics, including the SAF Code, and recognition of the responsibility to adhere to ethical standards in forestry decision making on behalf of clients and the public.

• Ability to understand the integration of technical, financial, human resources, and legal aspects of public and private enterprises.