Forestry
Lab, Field, & Technical Skills List

Field Skills:

- Forest ecosystem assessment & monitoring (forest growth and development, tree health, vegetation diversity, carbon dynamics, erosion, etc.)
- Species identification & classification
- Use of pacing, topographic maps, compass, and/or GPS equipment to navigate natural environment
- Forest assessment and inventory
- Interpretation of field conditions and site impact
- Observe/record/analyze/report field data
- Operate and maintain a variety of forestry field equipment
- Perform tree and forest measurements (ex. DBH, height, canopy cover and conditions) and calculations (ex. basal area, volume, and sequestered carbon)
- Experience in use of field guides
- Leave No Trace
- Time management

Lab & Research Skills:

- Documenting methodologies
- Analyzing and interpreting data / statistical analysis
- Use of forest vegetation models
- Application of biometrical equations to determine forest volume and carbon

Technical Skills and Related Software Tools:

- Geographic information systems and spatial analysis (e.g. ArcGIS, Python)
- Office management and communication (e.g. Microsoft Office, Microsoft Teams)
- Statistical analysis and forest modeling (e.g. FVS)

Certifications:

- SAF Certified Forester
- Emergency Medical technician (EMT)
- Wilderness First Aid (WFA) and/or Wilderness First Responder (WFR)
- CPR/AED
- Woodland Firefighter (a.k.a. "Red Card")

Rubenstein School Core Competencies & Knowledge Areas:

COMPETENCIES

1. **Communication:** Employ effective speaking, writing, listening, and digital communication techniques.

2. **Teamwork:** Contribute to collaborative efforts, facilitate contributions of others, and address conflict directly and constructively.

3. **Working Across Difference:** Critically examine dimensions of difference and apply a nuanced understanding of power and privilege through effective communication.

4. **Problem Solving:** Design, evaluate, and employ appropriate frameworks in order to effect change and generate collaborative solutions to complex problems.

5. **Inquiry & Analysis:** Apply critical thinking skills and employ qualitative and quantitative methodologies in order to formulate questions and evaluate core knowledge areas.

6. **Integrative Learning:** Synthesize and transfer learning to complex situations across disciplinary boundaries through the application of critical reflection skills.

KNOWLEDGE AREAS

7. **Ecological Processes & Systems:** Identify and describe basic ecological processes and systems.

8. **Social Processes & Systems:** Identify, interpret, and analyze cultural, economic, historical, and political dynamics of environmental issues.

9. **Planning & Management:** Describe effective strategies in ecological planning, management, stewardship, and conservation of natural resources.

10. **Sustainability:** Discuss social, economic, and ecological principles of sustainability.