Training Curriculum: Cartographer

The following training list is a recommended progression of official trainings grouped within broad career advancement stages. Courses are listed within recommended career timeframes, to which there is no requirement implied, simply a guide to supervisory expectations of job duty skill acquisition with experience. It should be noted that this curriculum list is specific for the common duties and tasks for Cartographers within the Soil and Plant Science Division (SPSD). Cartographers in other NRCS divisions frequently have workflows involving tools and methodologies that differ from SPSD Cartographers.

The curriculum represents a career progression of NRCS, ESRI courses, and on-the-job training. As a result, time allocated to training (up to 25%) will be scheduled for the first two years of the SPSD Cartographer's career for training in introductory to more advanced DSM and statistics courses, as well as transitioning to ArcGIS Pro and Web Map applications.

Elective courses are highly recommended, but not required within the curriculum. Nor are electives limited to those courses listed on this curriculum -- individuals are encouraged to tailor their trainings to fit their needs.

Offerings are not restricted to the level in which they occur and should not be used as a means of determining promotion eligibility.

These curricula do not in any way reflect the training necessary to fulfill the requirements for specific OPM job series, nor do they serve in any way to change the existing OPM-defined requirements for the specific job series.

You may omit courses that you have already taken as Soil Science or Ecological Sciences training.

Courses included in this curriculum may be recommended to SPSD Cartographic Technicians for professional development. The supervisor has the option of recommending the listed training courses as they see fit for the development of their employees' skills that they need to be productive on their job.

All course titles listed as being offered by the ESRI Academy can be substituted by a ESRI class with similar content due to course titles being updated by ESRI.

Beginner

> **CORE COURSES**
> **Year 1**
> - Cartography (ESRI Academy)
> - Planning a Cartography Project (ESRI Academy)
> - Basics of Python (ESRI Academy)
> - Python for Everyone (ESRI Academy)
> - Basics of Geographic Coordinate Systems (ESRI Academy)
> - Basics of Map Projection (ESRI Academy)
> - Displaying Data in ArcGIS Pro (ESRI Academy)
> - Getting Started with the Geodatabase (ESRI Academy)
> - Labelling Features with ArcGIS Pro (ESRI Academy)

- Managing Map Layers in ArcGIS Pro (ESRI Academy)
- Editing 3D Features Using ArcGIS Pro (ESRI Academy)
- Basic Soil Survey – Field and Lab (NRCS-NEDC-000012)
- Introduction to ArcGIS Pro for GIS Professionals (ESRI Academy)
- Conservation Planning, Part 1 (NRCS-NEDC-000019)*
- Introduction to Field Office Technical Guide (NRCS-NEDC-000149)*

Years 2-3
- Digital Soil Survey Data Editing (NRCS-NEDC-000250)
- Digital Soil Survey Management (NRCS-NEDC-000251)
- Introduction to Image Interpretation (NRCS-NEDC-000275)
- NASIS Basic (Guides)
- Spatial Analysis Workshop (NRCS-NEDC-000271)
- Statistics for Soil Survey, Part 1 (NRCS-NEDC-000400) (prerequisite for Intro to DSM)
- Introduction to Digital Soil Mapping (NRCS-NEDC)
- Map design Fundamentals (ESRI Academy)
- Introduction to Geoprocessing Scripts using Python (ESRI Academy)
- Cultural Resources Training Series, Part 1 (NRCS-NEDC-000141)
- Basic Soils & Web Soil Survey to Interpret Land Capabilities & Limitations (OJT/State/National) (NRCS-NHQ-000009)
- Environmental Evaluation Webinar Series no. 1: Primer on NRCS Environmental Compliance (NRCS-NHQ-000011)
- Environmental Evaluation Webinar Series no. 2: Documenting the Environmental Evaluation (NRCS-NHQ-000012)

Years 4-5
- NASIS – Understanding Soil Interpretations (NRCS-NEDC-000279)
- Soil Technology – Application of Soil Data Viewer (or similar application) and ArcGIS in Technical Soil Services (NRCS-NSSC-000001)
- Overview of Water Quality for Conservation Planners - No. 1 (NRCS-NHQ-000038)*
- Nitrogen Management and Concerns – No. 2 (NRCS-NHQ-000039)*
- Sediment Management for Water Quality – No. 4 (NRCS-NHQ-000041)*
- Water Bodies – No. 5 (NRCS-NHQ-000042)*
- Introduction to Digital Remote Sensing (NRCS-NEDC-000028)
- Managing LiDAR Data Using Mosaic Datasets (ESRI Academy)
- Managing Raster Sets Using ArcGIS Pro (ESRI Academy)
- Creating Prediction Surfaces in ArcGIS Pro (ESRI Academy)
- Spatial Data Science: The New Frontier in Analytics (ESRI Academy)

*Note: Courses indicated by asterisk can be replaced by enrollment and successful completion of Conservation Planning Bootcamp (NRCS-NEDC-000164)

RECOMMENDED ELECTIVE COURSES

Agency Knowledge
- Basic Field Conservation Orientation (Detail in field service center for 2-3 weeks)
- Introduction to the Field Office Technical Guide (NRCS-NEDC-000149)
- NRCS Mentor and Protégé Training (NRCS-NEDC-LOCAL-000003)
- Orientation for New Employees (NRCS-NEDC-000013)

Basic Skills
- How to Use DigiTop (National Agricultural Library interface)
- MS Excel Series (AgLearn Web-based learning)

Work Life
- Emotional Intelligence 2.0 (Audio book USDA-BOOK-49926)
- What is Emotional Intelligence? (AgLearn Web-based learning)

Intermediate

CORE COURSES
Early Mid-career
- ArcGIS 3D Performing Analysis (ESRI Academy)
- Sharing 3D Content with ArcGIS (ESRI Academy)
- ArcGIS Maps for Office Fundamentals (ESRI Academy)
- ArcGIS StoryMap Fundamentals (ESRI Academy)
- Learning QGIS (LinkedIn Learning)
- ESRI Intermediate User Courses

Mid-career
- ArcGIS 4 Sharing Content on the Web (ESRI Academy)
- Digital Soil Mapping with ArcSIE (NRCS-NEDC-000273)
- Remote Sensing for Soil Survey Applications (NRCS-NEDC-000244)
- Learning ArcGIS Python Scripting (LinkedIn Learning)
- Learning R (LinkedIn Learning)
- SQL (SkillSoft Online Training)
- R-ArcGIS Bridge Essentials (ESRI Academy)

RECOMMENDED ELECTIVE COURSES

Basic Skills
- Becoming an Effective Presenter (TBD)
- Conquering the Challenges of Public Speaking (AgLearn Web-based learning)
- Managing for Excellence (NRCS-NEDC-000010)

- MS Access (Web-based learning)

Leadership
- USDA Aspiring Leader Program (AgLearn Self-assigned curriculum)

Technical Skills
- Ecological Site Fundamentals (New Course)
- Science of Interpretations (NRCS-NEDC-000288)

Work Life
- Emotional Intelligence: Building Self-Management Skills (AgLearn Web-based learning)
- Emotional Intelligence at Work (AgLearn Web-based learning)
- Time Management (AgLearn Web-Based books)

Advanced/Leadership

CORE COURSES
- Change Detection Using Imagery (ESRI Academy)
- Creating 3D data Using ArcGIS Pro (ESRI Academy)
- Distance Analysis Using ArcGIS Pro (ESRI Academy)
- Python Scripting Geoprocessing Workflows (ESRI Academy)
- Python Scripting for Map Automation (ESRI Academy)

RECOMMENDED ELECTIVE COURSES

Leadership
- Emotionally Intelligent Leadership (AgLearn Web-based learning)
- Everything You Need to Know About Leadership in 60 Seconds (AgLearn Web-based learning)
- 151 Quick Ideas for Delegating and Decision Making (AgLearn Web-based learning)
- 151 Quick Ideas to Improve Your People Skills (AgLearn Web-based learning)
- USDA Team Leader program (AgLearn Self-assigned curriculum)

Technical Skills
- NASIS – Designing and Developing Soil Interpretations (NRCS-NEDC-000302)
- Statistics for Soil Survey Part 2 (NRCS-NEDC-000332)

Worklife
- Just Listen: Discover the Secret of Getting Through to Absolutely Anyone (AgLearn Web-based learning)
- 100 ways to Motivate Yourself (AgLearn Web-based learning)