Data Literacy for All

Objectives

- Become familiar with data science concepts and terms
- Understand what it means to work in a data-driven culture
- Identify common issues in data collection and analysis
- Interpret data visualizations to make strategic decisions
- Practice designing and developing a data project

Pre-requisites

This course is designed for people who do not work in data analytics areas but do work with business and policy data, and for whom appreciating how to connect with data is vital to engendering a data-driven culture throughout their organization.

Topics covered

1. The benefits of data:
    a. Introduction to data analytics
    b. Data governance strategy
    c. Selecting data tools
    d. Structuring data teams
2. Creating a data-driven culture:
    a. Data-driven decision-making
    b. The data science process
    c. Choosing feasible and meaningful projects
    d. Designing and revising data projects
3. Foundational data science methods
    a. The basics of machine learning
    b. Clustering and its uses
    c. Classification and its uses
    d. Regression and its uses
    e. Questions to ask about data science processes
4. Advanced data science methods
    a. Text mining and its uses
    b. Graph analysis and its uses
    c. Neural networks and their uses
    d. Questions to ask about data science results
5. Principles of data visualization
    a. The impact of data visualization
    b. Selecting charts and graphs to present results
    c. Tailoring visualizations to an audience
    d. Designing data visualizations
    e. Recognizing misleading and inaccurate visualizations