**MSI Data Science Manual**

Unit 1: Getting started

1. Entering the R ecosystem
   1. R, R Studio, Git, R packages
2. How R works
3. How R programs
4. Happy Git with R
5. R and Data Science resources

Unit 2: Data analysis workflow

1. Designing an analytical activity
   1. Client questions/hypotheses
   2. Learning agenda
   3. Logic modeling
   4. Generating priors
   5. Simulation
2. Sampling
   1. Identifying beneficiaries, groups of interest, population, super-population
   2. Identifying zones of influence
   3. Power analysis
3. Prepping data arrival
   1. Codebook
   2. Getting to Answers
   3. Labelling
   4. Functioning
4. Data cleaning and preparation
   1. Logic violations
   2. Implausible responses
5. Data exploration
   1. Frequencies/descriptives
   2. Mapping
   3. Disaggregation
   4. Hypothesis generation
   5. Networking
6. Data modeling
   1. Explanation
   2. Prediction
   3. Hypothesis testing
   4. Self-directed learning
7. Generating client deliverables
   1. Indicator tables
   2. Answering questions

Unit 3: Reporting

1. R Markdown
2. Quarto
3. Xaringan
4. Dashboards