All required coursework must be completed with a grade of B or better (O-10-b). Students should work with their advisors for potential substitution waivers. Courses to total 12 credits for this certificate. Students will be able to:

- Use open-source software to reproducibly manage, analyze, and visualize large, complex, and noisy data sets.
- Practice high quality and ethical data stewardship.
- Understand and execute data exploration.
- Effectively communicate data driven insights to experts and non-experts.
- Demonstrate their skills with an online portfolio of analyses and visualizations relevant to their field of specialization.