Designing and Teaching a Course on Community-Engaged Data Science

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I will discuss the course design and my experience teaching the course Community Engaged Data Science at a small university in Maine. I will share details of the course, including learning objectives, the course syllabus and resources used, and advice for other teachers at latinR interested in creating similar courses at their home universities based on the challenges I encountered and lessons learned from teaching this course.

In the course, Community-engaged Data Science, students work in multidisciplinary teams on a research problem identified by a community partner. The course emphasizes putting knowledge into practice, including going beyond individual fields of study to solve real world problems and understand community partner needs. Together with community partners, students work to gain insight from data, building skills in reproducible analysis and collaboration, using R programming tools and techniques. The course is designed as an advanced course building on skills gained in previous R programming and data analysis courses.

Throughout the course students develop their mathematical and programming skills as well as skills and traits valued by employers of STEM professionals, such as teamwork, reproducible analysis, effective communication, independent thinking, and problem solving. Students also build skills in project management, using agile methodologies and weekly meetings with community partners designed to foster co-development and iterative and incremental project delivery. Designed around personal development, each student also develops their own personal development plan, where they identify areas and skills they want to grow in and develop.