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## Research-based Curricula and Educating the New Data Scientist

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Data science opportunities in geosciences (Earth and space sciences) are appearing both for new graduates as well as for existing researchers. Rensselaer has been offering specific courses in data science and informatics for at least 10 years, and two degree programs have had a "data core" requirement for at least five years. In 2017, Rensselaer approved a core undergraduate curriculum change for a data intensive (two course minimum) requirement for all students. Datathons, data-intensive projects courses, and advanced analytics courses are now heavily subscribed. Based on feedback from recruiters, a strong differentiator for graduates that have taken these offerings is the research emphasis using real-world datasets and challenging science, engineering and business explorations. In this presentation, we relate the development, delivery, and assessment of research oriented informatics, data science, and data analytics and their geoscience specializations. We discuss what we have learned via formative and summative assessments, as well as the possible positive impacts for the next generation of data scientists.