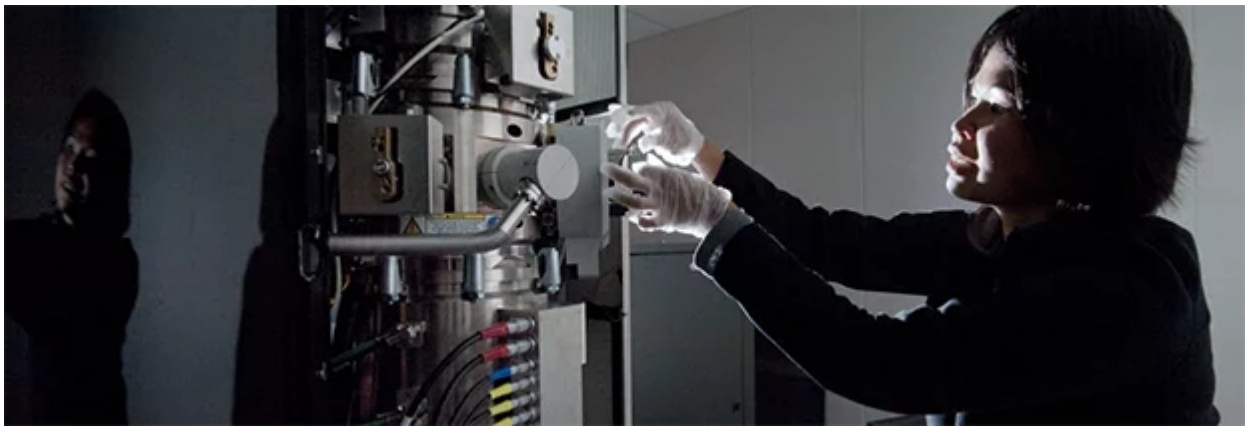
Menu

Stanford Undergrad

Ways of Thinking
Ways of Doing

Applied Quantitative Reasoning (AQR)



What

Applied Quantitative Reasoning (AQR) courses complement Formal Reasoning (FR) courses, providing a focused experience in inferential and inductive reasoning. Students actively apply these methods of reasoning through direct manipulation of data, models, software, or other quantitative tools.

Why

We make many decisions in life on the basis of large amounts of data, which can be incomplete or otherwise imperfect, and fraught with uncertainties. Cultivation of this way of thinking will give you a familiarity with actively analyzing complex phenomena, along with a stronger sense of how to predict and alter the behavior of complex systems -- even in the face of uncertainty.

How

Evaluation of empirical and analytical techniques necessarily comes from a wide range of contexts, so you might find Applied Quantitative Reasoning courses in engineering and design, earth sciences, public policy, education, law, the social sciences, medicine, and the natural sciences.

Applied Quantitative Reasoning courses typically include analysis assignments where you'll be asked to analyze numerical results from an experiment or the results of a data manipulation exercise and then interpret the resulting plots.

Choose

You'll find many courses that will allow you to explore Applied Quantitative Reasoning, but here are just a few:

- Data Science 101
- Earthquake and Volcanoes
- Mathematics of Sports
- Decoding Genomic Function
- Introduction to Decision Analysis
- Remote Sensing of the Oceans

See Applied Quantitative Reasoning Courses in Explore Courses.