The intuition and experience needed for sound statistics practice can be hard to learn, and a course that combines computing, statistics, and working with data offers an excellent learning environment in this regard. An integrated approach to data science creates opportunities to reinforce statistical thinking skills throughout the full data analysis cycle, from data acquisition and cleaning to data organization and analysis to communicating results. As a result, students gain the ability to express themselves through computations, actively engage in statistical problem solving, and keep abreast of new technologies as they evolve. This talk will describe approaches and provide examples for teaching data science in this integrated way. (Received September 22, 2015)