Scientists and science students for the most part focus their energies, creative and otherwise, on their science. With the rapid evolution of scientific knowledge, most of us persist in covering this content in our teaching - at best together with measurement, quantitative analysis, and laboratory procedures. Our graduates will be faced with working in an increasingly global environment with technological advancements commonly outstripping our ability to process the implications of these changes at the pace needed for the betterment of society. These advancements offer exciting as well as challenging opportunities, and scientific understanding as well as innovation will be critical to creating a sustainable future. However, our future scientists are commonly ill-equipped to lead this change, even where an understanding of their science is critical to responsible decision-making. Developing leadership and communication skills is not on the radar of most undergraduate or graduate programs in science, yet most of our graduates will at some point be called upon to be leaders, and increasingly, effective communicators of their science to the public.

In response to this need, we have developed an undergraduate certificate in leadership and communication in science, in which students select a sequence of courses that equip them to reflect more deeply on the nature and responsibility of science, ethical issues and decision-making in the sciences, what it means to be an effective leader, and building and sustaining collaborative communities. Key components include a course in communicating science in which students learn and practice effective communication for a variety of audiences; and a capstone course in science leadership provides students with the opportunity to develop their leadership skills directly in the context of science. Students learn the theory behind what it means to be a leader in today’s society, again in the scientific context. This presentation will serve to highlight the facets of the certificate, and focus specifically on the nature of the leadership course itself, as a creative response to the increasing demands and responsibilities of young scientists moving forward in the 21st Century. We discuss also the lessons we have learned as we implemented this course, together with the benefits and our plans moving forward. In particular, we highlight the challenges in transforming traditional thinking, as we integrate leadership philosophies and theories (Komives et al., 2013; Kouzes and Posner, 2014; Marquard and Berger, 2000; Shankman et al., 2015), across a variety of scientific disciplines (Ferrett, T., 2013).