

Practical Ideas from Professors: Standards Education in Your Courses

Teaching Standards in History & Technology Studies



About the Program in Science & Technology Studies at Stevens Institute of Technology

Stevens Institute of Technology is a technology-centric university located in Hoboken, New Jersey, directly across the Hudson River from midtown Manhattan. The Program in Science & Technology Studies (STS) at Stevens is an interdisciplinary program within the College of Arts & Letters, an academic unit that oversees humanities and arts instruction for all Stevens undergraduates. STS, as a field of study, examines the feedback loops between science, technology, and society: both the social forces that shape scientific knowledge and technical practice, as well as the social consequences of research, innovation, and engineering.

Using Standards in History & Technology Studies Courses:

History is the study of change over time in human societies; a recurring theme in most history courses is the tension between diversity and uniformity. For students who take history at the university level, learning about standards is akin to seeing human societies in microcosm. The standards-setting process demands that people with different interests and backgrounds work together toward a common end. There is always competition, and there is always cooperation. The process always generates winners and losers, and the divergent fates of groups and individuals often mirror their social standing and relative positions of power. There are many striking parallels between standards-setting processes and political history—such as constitutional conventions, multilateral agreements, and behind-the-scenes dealmaking. Standards, like politics, illuminate the subtleties and nuances of human behaviour.



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Using Standards in History & Technology Studies Courses (continued):

At Stevens, we offer an entire course on standards within our STS curriculum. The course, titled “Standards and Society,” provides an interdisciplinary overview of the place of standardization in modern societies. Students explore how standards play important roles in shaping their lives as consumers and citizens. Readings, lectures, and class discussions will consider the past, present, and future of standards-setting regimes in industrial, governmental, and international arenas through examples such as standards for computing, automobiles, food, medicine, and education. At the same time, students learn how they might participate in the development and use of standards in technical and social fields. Many of our students major in STEM fields, so they have already encountered standards in their technical classes. Moreover, they are very likely to encounter standards in their work after they graduate from Stevens.

One innovative aspect of our curriculum is our extensive use of simulation exercises. In these exercises, we introduce students

to an imaginary technology—such as 3D printed devices, or sensor-filled wearable technologies—and assign them to play specific roles in the standards-setting process. Some students adopt the role of the safety-obsessed public servant; others adopt the role of a stodgy incumbent firm or a nimble, ambitious entrepreneur. The exercises generate a remarkable depth of discussion, insight, and learning that they do not experience in traditional lecture or seminar formats.

Another important consideration is to structure class assignments around subjects with which students already have a personal connection. All our students, for example, take standardized tests and are compelled to take part in course assessment procedures. These rituals, which are grounded in the desire to enhance fairness and effectiveness in education, are often confusing and opaque. Like all standards, educational standards are the products of complex social processes—in other words, they are reservoirs of endless teachable moments.

For more information on Standards and Standards development, visit
www.standards.ieee.org