

With increasing frequency, scientific literacy is being identified among the most essential outcomes of undergraduate education. This does not mean that every student must now major, double-major, or even minor in one of the sciences. It will always be vitally important for colleges and universities to prepare specialists of every stripe to pursue the answers to scientific questions most of us will never know enough even to frame, but we do not all need to be trained as scientists. Instead, the social mandate to produce scientifically literate citizens—scientists included—calls upon higher education to provide the kind of broad scientific knowledge and understanding necessary to civic participation and personal decision making. But just what kind of knowledge and understanding is that, and how exactly should colleges and universities go about providing it?

The Featured Topic section of this issue considers these curricular and pedagogical questions. James Trefil leads off by discussing the reasons why a liberally educated person should know some science, why it is necessary for college graduates to be “comfortable handling science-related issues that arise in public debate.” He then proceeds by contesting the proposition, often asserted as a corollary, that students

FROM THE EDITOR

should learn science by “doing” science. If citizenship is the goal of general science education, then, Trefil argues, the ability to “do” science at some level is more or less irrelevant. Next, in light of the developments of the past decade, Jeanne Narum revisits the predictions and recommendations made in a 1999 report from Project Kaleidoscope. Narum’s stocktaking provides an overview of the key changes to undergraduate teaching and learning in the STEM disciplines as well as a roadmap for the future. The Featured Topic section concludes with an examination of recent developments that are transforming the field of earth system science. Within this context, the authors make the case for raising the status of earth system science within college curricula.

There is strong agreement that the United States must make science achievement a top priority. More successful science graduates are urgently needed, and so too are liberally educated graduates, regardless of their majors, who can evaluate and use scientific information in their everyday lives. The question of how colleges and universities can best respond to these needs will be taken up by members of the AAC&U community in November 2008 at the Network for Academic Renewal conference “Engaging Science, Advancing Learning.” There, participants will explore ways to increase the quality and level of students’ engagement and achievement in science and scientific research. Information about the conference can be found online at www.aacu.org/meetings/engaging_science.—DAVID TRITELLI

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