

INSTITUTIONS THAT WORK ARE...

ATTAINING AND MAINTAINING THE SCIENTIFIC AND TECHNOLOGICAL LITERACY OF ALL STUDENTS BY:

- heightening the visibility of science, mathematics, engineering and technology (STEM) as an integral part of a 21st century undergraduate education, including through a wide range of co-curricular activities
- having graduation requirements, in accordance with the institutional mission, that express expectations of the level of scientific, technological, and quantitative literacy of their graduates and an assessment plan to measure these goals
- expecting all students to prosper in the study of STEM fields and by providing resources adequate to make that happen
- establishing opportunities, such as learning/teaching centers, for faculty to discuss how students learn, what students should learn and where and when during their academic career it should be learned
- supporting the collaborative development of inquiry-based courses and programs that cut across disciplines and that provide a structure for students to integrate what they are learning
- ensuring that facilities are welcoming to all students, enable flexible scheduling and can be used by students with different learning styles, and are themselves laboratories for learning

MOTIVATING AND PREPARING STUDENTS FOR CAREERS IN STEM BY:

- having an educational vision that embodies a view of the world in which their students will live and work, including the increasingly interdisciplinary nature of STEM
- setting goals for student learning that mirror capacities expected in the 21st century workplace, such as problem-posing/solving, the skills of oral and written communication, and the ability to function in multi-disciplinary teams
- providing role models and mentors that attract students, particularly from groups currently under-represented in science, to major in a STEM field, as well as the financial and other support to ensure their persistence through graduation
- ensuring that introductory courses motivate students to persist in the study of STEM and having the assessment data to show this
- connecting learning to the real world, including service learning, internships and research opportunities that engage students in the doing of science
- providing research-rich and technologically-intensive spaces that facilitate access to instrumentation common in the practice of 21st century science and technology.

INSTITUTIONS THAT WORK ARE...

BUILDING STRONG ACADEMIC COMMUNITIES BY:

- providing support for faculty, at all career stages, to remain current with developments in their scholarly field so that they can translate scientific and technological advances into meaningful learning experiences for their students
- designing policies and practices in regard to tenure, promotions, and reward criteria that signal the value of educational innovation, including the integration of research and technology into the teaching of undergraduates
- recognizing and rewarding those faculty responsible for student success in the study of STEM
- pressing for conversations that engage faculty in cross-disciplinary explorations about the changing worlds of science and technology and their meaning for our society
- shaping spaces that foster learning communities, especially ones that make the doing of science a visibly human activity.

FOCUSING ON THE FUTURE BY:

- bringing findings from cognitive science into the exploration, implementation, and assessment of new pedagogical and curricular approaches
- encouraging risk-takers within the community to explore new scientific and technological worlds that are having an impact on what and how students learn
- helping faculty connect to colleagues within and beyond their campus who share an expertise and interest in new pedagogies, technologies, and curricula
- wrestling with the nature of community in a world in which technologies are transforming how people access information and interact one with another
- becoming partners in learning with teachers and students in K-12 communities surrounding the campus
- supporting a wide range of outreach activities, formal and informal, between the campus and the community.
- having active involvement in national discussions on public policy and higher education.