BREAKOUT SESSION: CO-CURRICULAR ACTIVITIES

Breakout Session Objectives

- Develop a shared vision of the role of co-curricular activities such as independent research, study abroad, service learning, and outreach in the STEM Gateway Curriculum.
- Identify teaching and learning and advising approaches that can be used to encourage student participation in high impact, co-curricular activities.
- Identify ways the STEM Education Alliance can be used to support efforts to encourage student participation in high impact, co-curricular activities.

Discussion Questions

The pre-meeting survey prompted participants to describe the importance of co-curricular activities such as independent research, service learning, and study abroad. The vast majority of respondents indicated that these types of activities provide a valuable role in the gateway curriculum. However, most respondents also indicated that too few students participate in such activities during the early part of their STEM education. These questions will focus on how to better integrate high impact, co-curricular activities in the STEM gateway experience.

Crosscutting concepts are those that bridge disciplinary boundaries and have explanatory value in diverse settings. Science practices are the set of activities and approaches used to develop, extend, and refine scientific knowledge. The pre-meeting survey prompted participants to describe the crosscutting concepts and practices that are important for the STEM gateway curriculum. The results are summarized in Table 1. Please refer to this list to answer the questions about the role of crosscutting concepts and science practices.

- How are the crosscutting concepts and practices related to these co-curricular experiences?
  - How can co-curricular experiences help making crosscutting concepts and connections between disciplines more obvious to students?
  - Are there other crosscutting concepts or practices that can be addressed by these co-curricular activities?

- To what extent do students understand the role and value of co-curricular activities in the STEM curriculum?
  - What approaches can be used to improve student understanding of the impacts and to encourage participation?

- What approaches can be used to integrate independent research, service learning, and study abroad into the STEM gateway curriculum?

- How can the STEM Education Alliance encourage and/or facilitate these efforts?

Notes from Discussion

- In general, efforts to increase undergraduate student awareness about undergraduate research as an opportunity are high, but the university should increase its effort at increasing underrepresented minority (URM) student involvement in research opportunities and other high impact experiences.

- Scaling Up programs—how does one increase his/her capacity to mentor undergraduates?

- We explored the possibility of creating an early level topic-focused research seminar for first- and second-year students that was similar to the Honors Research Seminar. It would be based in each college and would provide students with a hands-on opportunity to get exposed to research more in-depth and earlier in their academic careers.
• More funding for undergraduate research—some faculty felt that they could take on more undergrad students in the lab but they do not have funds to pay them and students need jobs to pay for school.

• Consider employer sponsored undergraduate research (higher level students)—but having faculty work more closely with industry and have industry sponsor student research projects under the guidance of a faculty mentor/grad student (similar to what engineering does with Design Day projects)