Civil and Environmental Engineering

A department in the College of Engineering offering the B.S., M.S. and Ph.D. in Civil Engineering and the M.S. in Environmental Engineering.

The Review Process

This was a standard AQAD review. Reviewers were:

Samuel P. Clemence (Syracuse University)
Michael J. Demetsky (University of Virginia)
James O. Jirsa (University of Texas, Austin)
William R. Knocke (Virginia Polytechnic Institute & State University)

Main Issues

The visiting team had a "favorable response to many aspects of the Department's educational and research activities, and felt the faculty and the Head had done much to keep the Department moving forward over several years of very challenging financial times." The undergraduate program was found to be "very good," with particularly praise expressed for out-of-classroom and hands-on experience available to students. The graduate program was also seen as generally good, with some variation across the areas of emphasis. Concern was expressed over declines in the number of Ph.D. students across the department, and also over tight funding for graduate TA support.

In terms of the department's major program areas, Environmental Engineering was cited as a departmental strength, but seriously threatened by earlier and impending faculty departures. The Geotechnical program was seen as strong, but suffering from declines in both research activity and graduate enrollments. The Structural Engineering program was found to be well-balanced, but to lack the "critical mass" of faculty necessary for continued viability. The tem noted it had heard discussion of a new Architectural Engineering degree, but felt that this would "overload" the already thin Structural faculty. The department's fourth area, the Transportation program, was seen as well-positioned to take advantage of opportunities arising from its relationship with the University-system Transportation Center (UMTC), but also too dependent on and insufficiently differentiated from the UMTC. The team felt the department should focus more on Ph.D. level work and research with higher overhead return and less on state grants and contracts.

The team identified several major recommendations:

- The department's resource base in terms of operating funds, funds for graduate teaching assistants, and funding for equipment is low for a faculty of its size, and "requires further College and University investment to appropriately support the faculty in their desire for increased regional and national reputation." While the overall quantity of space was found to be appropriate, "there is need for appropriate investment in renovations and facility upgrades."

- The team found that "there has been little emphasis on strategic planning in the Department for several years," and that some issues regarding faculty communication and participation

had been noted during the visit. The team recommended that a "strategic planning process that involves broad and substantial faculty involvement should be undertaken immediately."

- The team identified "a significant need to increase the number of faculty positions" in the Structural Engineering program. In addition, the "recent and future faculty retirements in the Environmental Engineering Program threaten the national reputation of the Program and require direct action."

Results of the Review

The Dean reported a number of specific responses to the team's recommendations:

- The department head, who plans to step down next year, has initiated a formal strategic planning process to address the issues raised by the visiting team.

- A proposal for replacing an anticipated retirement in Environmental Engineering is anticipated, and steps are being taken to reduce the commitment of another faculty member in that area to administering the campus's Environmental Institute.

- The Structural Engineering faculty have been encouraged to propose and justify additional faculty positions.

- Steps to increase TA funding across the College are being explored.

- The idea of retaining UMass B.S. and M.S. students into the Ph.D. program will be explored in the strategic planning process.