MEMORANDUM

TO: Sallie Keller-McNulty  
Dean, The George R. Brown School of Engineering  
MS 364

FROM: Pedro Alvarez  
Civil and Environmental Engineering  
MS 317

SUBJECT: Request for Degree Changes

DATE: March 18, 2008

The Departments of Civil Engineering and Environmental Science and Engineering merged in 2001 to create the Department of Civil and Environmental Engineering (CEE). The next phase involved integration of departmental goals, outcomes, and curriculum. In preparation of the 2006 ABET review, the curriculum for all civil and environmental engineering degrees, with a focus on the B.S. in Civil Engineering, were reviewed in 2003-04. Once again, CEE is in the process of reviewing its degree offerings, and we have concluded that a consolidation of and reduction in our degree offerings is necessary for continued integration. The change of department name and proposed degree consolidations are part of the ongoing process of curriculum evaluation and improvement as required by ABET and SACS. CEE presently offers 10 degrees, as listed below, many of which are left over from years of earlier programs.

Undergraduate Degrees:
1. B.S. in Civil Engineering
2. B.A. in Environmental Engineering Sciences
3. B.A. in Civil Engineering

Professional Masters - non-thesis degree:
4. Master of Civil Engineering (MCE)
5. Master of Environmental Engineering (MEE)
6. Master of Environmental Science (MES)

Graduate Degrees: Masters of Science and Doctorate of Philosophy
7. M.S. in Civil Engineering
8. M.S. in Environmental Engineering
9. Ph.D. in Civil Engineering
10. Ph.D. in Environmental Engineering

The CEE faculty has approved, as a part of our ABET and SACS assessments, a plan to consolidate the degree offerings and make them more consistent with the degrees offered in other engineering departments at Rice and peer institutions. The result will streamline our review process as well as streamline choices for students, and will be accomplished primarily by consolidating degrees in civil engineering and environmental engineering with minimal modification in curriculum. We unanimously approve and propose the following degree offerings for fall of 2008:
Undergraduate Degrees:
1. B.S. in Civil Engineering
2. B.A. in Civil and Environmental Engineering

Professional Masters - non-thesis degree:
3. Master of Civil and Environmental Engineering (MCEE)

Graduate Degrees: Masters of Science and Doctorate of Philosophy
4. M.S. in Civil and Environmental Engineering
5. Ph.D. in Civil and Environmental Engineering

To implement the proposed plan for reducing the number of degree offered in CEE, consolidation will occur at all levels – undergraduate and graduate (nonthesis masters, masters, and doctoral). The B.S. in Civil Engineering is the only degree that will remain unchanged. The plan is outlined below.

The two remaining undergraduate degrees (B.A. in Civil Engineering and B.A. in Environmental Engineering Sciences) will be eliminated, and a new B.A. in Civil and Environmental Engineering created (see attachment). This new BA CEE will be a combination of the previous degrees. The B.A. degree is designed to provide access to topics of common interest to students across the disciplines at Rice University, and is tailored to the specific needs of each student by discussion and approval by the CEE departmental advisor. The new core curriculum is a consolidation of the two original degree plans, and will allow CEE students to focus on either structural and mechanical engineering or environmental engineering. Students in either of the original programs will not be affected by the change, and will be able to seamlessly transfer into the new degree program rather than remain in their original. Course offerings will generally remain the same.

To create the new Masters in Civil and Environmental Engineering (MCEE), the Masters in Civil Engineering (MCE) and Environmental Engineering (MEE) will be combined (eliminated) and the Masters in Environmental Science (MES) will be eliminated. The Masters is a professional non-thesis degree program requiring completion of 30 semester hours of approved courses. In the new consolidated program, students will focus on civil engineering or environmental engineering. Students will a B.S or B.A. in CEE are encouraged to apply. At this time, there are only two students in the CEE Professional Masters program. The new degree will not affect them at all. The elimination of the MES will have no effect on any students since there are no students in the program at present.

At present, a Master of Science degree is offered in both civil engineering and environmental engineering. We propose eliminating these degrees and creating a new consolidated M.S. in Civil and Environmental Engineering. Once again, there will be no changes to the curriculum. Students will still be required to complete at least 24 semester hours of approved courses. For students focusing on civil engineering, structural engineering, and mechanics, this must include one course each in structural engineering, mechanics, advanced mathematics, and dynamic systems. Students focusing on environmental engineering must include one course each in environmental chemistry, water treatment, hydrology, and air quality. Students in either of the original programs will not be affected by the degree change.
The general announcements and rosters of degrees conferred indicate that only one Ph.D. in Civil and Environmental Engineering is currently offered. However, for ABET and SACS, there are two degrees to be reviewed. While no change may be required, we would like to confirm that only one combined Ph.D. in Civil and Environmental Engineering exists.

The effect these changes in degree offerings on the curriculum and on students will be minimal. Essentially all viable degree options have been retained; only the names have changed with this consolidation. The core curriculum remains the same as before with students focusing on either civil or environmental engineering upon approval by their CEE departmental advisor.