



Bridging to the Bicentenary: Collaboratively Educating Engineers and Architects

Mark Mistur¹, Chris Letchford²

¹ Associate Dean, School of Architecture, and

² Chair, Department of Civil and Environmental Engineering,
Rensselaer Polytechnic Institute, Troy, NY, USA

Michael Stein

Schlaich Bergermann and Partner, PE, Managing Director, New York, NY, USA

Contact: mistum@rpi.edu

Abstract

Rensselaer Polytechnic Institute (RPI) has been educating civil engineers for almost 200 years and over the last fifteen a unique collaborative program has developed between the Department of Civil & Environmental Engineering, the School of Architecture and prominent structural engineers. Funded by the Bedford Endowment, the program pairs architecture and structural engineering students over their senior semesters in a range of courses designed to improve mutual understanding, develop awareness of design motivations and aesthetics in the engineers and structural forces and forms in the architects. Led by a leading structural engineer from practice on a three year appointment, the Bedford Professor teaches both a seminar and a studio class and leads a ten day travelling workshop at the end of each academic year that exposes engineering and architecture students to best practice examples of collaboration in the design of the built environment.

Keywords: Structural Engineering Education; Interdisciplinary Studio Collaboration.

Overview

This paper outlines the development of the Bedford program and how it has moved from being an alternative to the 4th year engineering capstone design to a highly selective program for co-terminal (5th year ME) engineering students and a major component of the Design Development Studio within the five year Architecture Program. A fundamental aspect of the initiative is establishing curricular linkages between Structural Engineering and Architecture to develop interdisciplinary exposure and depth in each other's program. For architecture students starting calculus early has opened up the possibility for the pursuit of a Civil Engineering

minor which some articulate into a co-terminal ME degree in Structural Engineering. Likewise, encouraging engineering students to follow creative interests is promoted. A new course in Conceptual Structural Systems encourages them to think 'outside the box' and create models to test more complex structural schemes, just as architects do in their studio courses.

Following Bedford Visiting Professorships by leaders from Buro Happold, ARUP and Schlaich Bergermann and Partners, the program is now entering its 4th Professorship and has attracted interest both nationally with education awards and internationally with opportunities to explore collaborative student workshops in Europe.