College of Engineering
Summer Research Experience for Undergraduates Program

Request for an Engineering Student for Summer 2011 Research

Faculty Name _______Scott Civjan____________________________________
Phone ______545-2521_____________________________________________
Department ___CEE_________Email: _____civjan@ecs.umass.edu

Brief description of Summer Research Project (please explain the interdisciplinary nature of this project).
The project will investigate the potential of using ambient wind load on a structure to effectively distribute heating and cooling throughout a building. This system could be designed to augment HVAC units to minimize energy consumption. The research is a proof of concept demonstration of a potential system. This project will include aspects of structural engineering, building science, architecture, mechanical engineering, environmental principals and green building technology.

Brief description of what the student will be doing:
The student will be constructing a desk scale model of a building to provide proof of concept. The model will be framed from plexiglass, rubber and wood with a ventilation system of surgical tubing and valves. Smoke will be injected into a section used to track air flow through the building through photographing at regulated time intervals. The student will also complete a literature review of innovative natural ventilation systems and learn basic 2-D thermal modeling programs for structures.

Is this a CASA-related project?  Yes ___ No _X_

Preferred background of student (major(s), class, GPA, pre-requisites, etc.):
Must be CEE major between Jr and Sr year. The student must have completed a course in Thermodynamics and a course in either Steel Design or Concrete Design. AutoCad skills are a definite plus.

Did you mentor a student last summer in the College REU Program?
Yes_____ No _X_

If yes, please describe the outcomes for that student (i.e. Honor’s thesis, conference presentations, manuscripts, papers, etc. Describe accomplishments to date as well as plans for the spring semester if the work has continued):

Please return this form to:

Lorraine Robidoux,
REU Program Coordinator
129 Marston Hall

By Friday, February 15, 2011