CEE-01
Water Quality Assessment for Bethel and Silver Lake
Dr. K. Jahan, Dr. J. Wyrick
(Need CEE and CHE)

• Identify potential water quality parameters for monitoring

• Monitor water quality parameters bi-weekly and during storm events

• Identify stormwater outfalls, land use change and non-point sources of pollution

• Investigate sources of Phosphorus and measure Phosphorus in sediments
**Heavy Metal Contamination in Highway Marking Beads**

Dr. K. Jahan and Dr. K. Ramanajacharry

(Need CEE and CHE)

- Conduct literature review of metals in glass beads
- Conduct current global regulations in allowable metal content in glass beads
- Conduct batch experiments utilizing glass beads to determine the impact of factors such as abrasion, chemical applications on roadways such as NaCl, pH etc.
CEE-03 Use of Recycled Waste in Construction Materials

Jahan and Mehta CEE 1 Senior /and 3/4 Juniors

- Evaluate crushed recycled concrete and sewage sludge ash in HMA
- Specimen prepared in Superpave Gyratory Compactor
- Evaluation using Creep compliance, Fracture energy in MTS
- Determine PPA in modified binder.
• Ongoing project to develop collapsible signs
ME01: Improving the strength of aramid fiber composites

Dr. von Lockette
Dr. Riddell
Dr. Lofland
Sediment Transport in Mantua Creek

CEE-05 Wyrick

• Measure sediment transport rates and potential in Mantua
• Design & build scale-model flume

Need 5 CEE

survey and construction skills appreciated

Fluids Background Required
Wind Power, Micro-hydopower, & Efficiency Studies

CEE 06

Wyrick, Riddell, Everett

- Develop plan for use of clean energy alternatives in rural Jersey

Need 3 CEE, 1 ME, 1 ChE
Engineers Without Borders: El Salvador

- CEE 07
  - Profs. Everett, Wyrick & Mehta

- Town of La Ceiba
  - Water Supply & Distribution

All Majors can apply!
In 2006, the most recent year of statistics available, there were 87 motorcyclist fatalities in New Jersey.

Nationally, as motorcycles become increasingly popular, motorcycle deaths have increased dramatically in the U.S.

In New Jersey, motorcyclist fatalities have more than doubled since 1991

The goal of this project is to develop a strategic plan for the reduction of New Jersey motorcycle accident rates in both fatal and non-fatal crashes.

a. Needs for Enhancements to Motorcycle Training and Licensing (survey and interviews)

b. Field Inspection of Fatal Motorcycle Crash Sites.
CxEE – 09 An Analysis of Pavement Cracking and Road Conditions in RI

2-3 CEE students
Dr. Yusuf Mehta

• Evaluate and analyze the non-destructive testing data collected by RI DOT

• Determine the in-situ conditions and the dominant failure mechanisms

• Analyze data using the design guide

• Provide recommendations to RI DOT
Try to break concrete instead of test equipment

- Develop and perform an experimental study in reinforced concrete
  - Literature review
  - Test program
  - Construction
  - Testing
  - Revision
  - Analysis and report of results
Pervious Pavement
CEE-11 – Dr. Cleary

• Learn everything you can about Pervious Pavements
  • How to make
  • How to use
  • How maintain
  • Applications
• Help Rowan develop plans for its implementation on campus
CEE 12 - Flexible Pavement Subgrade Analysis

Graduate Student: Nick Lambert
Dr. Sukumaran & Dr. Mehta

- Determine the compaction densities obtained during trafficking
- Determine mechanism inducing compaction
- Compare full-scale pavement data and gyratory data

- Determine compaction characteristics of the subbase material using modified Proctor test

- Determine the compaction characteristics of the subbase material including the contact energy index and compaction indices
The goals of the project are:

- Quantify density / compaction of MgO
- Determine main contributing factors for density / compaction differences including grain size distribution within various containers of Omega’s MgO powder stock
- Develop a practical method of measuring MgO density / compaction which can be implemented within the Omega production process

Tools to be used:

- Sieve and image analysis using OT microscope and XCT to determine particle size
- Vibratory compaction to assess compaction characteristics
- XCT of Omega wires to assess compaction density within wires