COURSE SYLLABUS (2 Page)

Course Number: CEGR 3161
Course Name: Transportation Engineering I

Credits and Contact Hours: 3

Instructor: Martin Kane

Textbook: *Title:* Transportation Engineering, Planning and Design. (4th ed.)
Authors: Wright and Ashford
Year: 1998

Catalog Description: Analysis of transportation facilities; planning, location, economic considerations, safety analysis, and Intelligent Transportation components, with special emphasis on land transportation.
Most Recently Offered (Day): Spring 2016, Fall 2015, Summer 2015
Most Recently Offered (Evening): Course has not been offered in 3 years

Pre-Requisites/Co-Requisites: MATH 2241, CEGR 2102, CEGR 2104, and MEGR 2141, all with grades of C or above; Junior standing.

Course is: Required (R)

Goals: Students should have a basic understanding of the concepts and issues regarding transportation from a micro and macro perspective. Students should perform numerical analysis of basic highway design problems, calculate calculus-based problems related to transportation, and be able to present analysis of transportation problems from a societal and economic perspective.

Student Outcomes Addressed:
In this course, students will develop the following Student Outcomes:
A. an ability to apply knowledge of mathematics, science, and engineering
E. an ability to identify, formulate, and solve engineering problems
F. an understanding of professional and ethical responsibility
G. an ability to communicate effectively
H. the broad education necessary to understand the impact of engineering solutions in a global, economic, environmental, and societal context
I. a recognition of the need for, and an ability to engage in life-long learning
J. a knowledge of contemporary issues
K. an ability to use the techniques, skills, and modern engineering tools necessary for engineering practice

Course Topics:
Issues and challenges (congestion and safety); access, environmental impacts (local and system-wide); technology (ITS); funding (TEA-21); design standards; sight distances; geometric design; earthwork; surfaces and guideways; traffic analysis techniques; statistics; capacity and level of service; traffic control; incident management; signs, signals; ramp metering; transit operations; transportation demand analysis; transportation planning; and rational and political issues.