George Mason University
Graduate Course Approval/Inventory Form

Please complete this form and attach a copy of the syllabus for new courses. Forward it as an email attachment to the Secretary of the Graduate Council. A printed copy of the form with signatures should be brought to the Graduate Council Meeting. Complete the Coordinator Form on page 2, if changes in this course will affect other units.

Please indicate:  ____X_ NEW  ____ MODIFY  ____ DELETE

Local Unit: Civil, Environmental, and Infrastructure Engineering Graduate Council Approval Date: 10/21/04

Course Abbreviation:  CEIE  Course Number: 565

Full Course Title: Design of Transport Systems

Abbreviated Course Title (24 characters max.): Design of Transport Syst

Credit hours: 3  Program of Record: MS CEIE

Repeatable for Credit?  ___ D=Yes, not within same term  Up to hours  ___ T=Yes, within the same term  Up to hours  ____ N=Cannot be repeated for credit

Activity Code (please indicate):  ____ Lecture (LEC)  ____ Lab (LAB)  ____ Recitation (RCT)  ____ Studio (STU)  ____ Internship (INT)  ____ Independent Study (IND)  ____ Seminar (SEM)

Catalog Credit Format 3 : 3 : 0  Course Level: GF(500-600) _500___  GA(700+) ____

Maximum Enrollment: 20  For NEW courses, first term to be offered: SP 06

Prerequisites or corequisites: CEIE 360

Catalog Description (35 words or less)  Please use catalog format and attach a copy of the syllabus for new courses:

Design of streets and highway facilities with emphasis on the interaction between driver/vehicle and geometric design elements. Design of intersections and interchanges; highway roadside safety; pavement design; clear zone concept; roadside barriers; and traffic calming.

For MODIFIED or DELETED courses as appropriate:

Last term offered:  Previous Course Abbreviation:  Previous number:

Description of modification:

APPROVAL SIGNATURES:

Submitted by:  ________________________________ email: __________________

Department/Program:  ________________________________ Date: __________________

College Committee:  ________________________________ Date: __________________

Graduate Council Representative:  ________________________________ Date: __________________
Approval from other units:

Please list those units outside of your own who may be affected by this new, modified, or deleted course. Each of these units must approve this change prior to its being submitted to the Graduate Council for approval.

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<th>Head of Unit’s Signature:</th>
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Graduate Council approval: ____________________________ Date: ____________

Graduate Council representative: __________________________ Date: ____________

Provost Office representative: __________________________ Date: ____________
COURSE PROPOSAL TO THE GRADUATE COUNCIL
BY
SCHOOL OF INFORMATION TECHNOLOGY AND ENGINEERING

I. CATALOG DESCRIPTION

A. CEIE 565 Design of Transport Systems (3:3:0)

B. Prerequisite: CEIE 360

C. Catalog Description:

Design of streets and highway facilities with an emphasis on the interaction between driver/vehicle and geometric design elements. The design of intersections and interchanges; highway roadside safety; highway tort liability; pavement design, maintenance and safety; edge drop off; clear zone concept; roadside barriers; guiderail treatments; traffic calming; pedestrian/bicycle and transit design challenges, and work zone traffic control.

II. JUSTIFICATION

Course necessity: This course will provide students with the skills necessary to understand the interaction between driver, vehicle and environment, and how to incorporate these interactions into better design practices. The course also introduces the concepts of forgiving highway design and highway tort liability.

Relationship to other courses: This course builds upon the introductory transportation topics covered in CEIE 360 Introduction to Transportation Engineering.

III. APPROVAL HISTORY

A. Approved by the Civil, Environmental & Infrastructure Engineering Department on October 14, 2004
B. Approved by the IT&E Graduate Studies Committee on
C. Approved by the IT&E Dean on

IV. SCHEDULING

Time of Initial Offering: This course has been offered in the Spring of 2003. It is one of three elective courses offered in the Spring Semester for Transportation Majors and it is anticipated that it will be offered again in Spring 2006.

Existing Faculty With Expertise in Subject Area
CEIE faculty members Aimee Flannery, Michael Bronzini, Mohan Venigalla

V. COURSE OUTLINE

1. Highway Functions/Accident Statistics
2. Driver Characteristics/Design Vehicles
3. Highway Tort Liability and Management Systems
4. Pavement Design and Management Systems
5. Sight Distance
6. Roadside Design
7. Clear Zone/Forgiving Highway Design Concepts
8. Sign Supports/Roadside Barriers/Guiderail
9. Work Zone Design
10. Traffic Calming Techniques
11. Pedestrian/Bicycle/Transit Design Challenges


Course Requirements and Grading

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