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: 663  

Full Course Title: Intelligent Transportation Systems  

Abbreviated Course Title (24 characters max.): Intelligent Trans. Syst.  

Credit hours: 3  
Program of Record: MS CEIE  

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

Up to hours  

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)  
GA(700+)  

Maximum Enrollment: 20  

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

Prerequisites or corequisites: CEIE 561 or CEIE 562  

Catalog Description (35 words or less)  

Please use catalog format and attach a copy of the syllabus for new courses.:

Advanced transportation system operations and safety through the use of wireless and wireline communications; integrated transportation systems; in-vehicle technologies; industry standards; and systems architecture.

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: 

GEORGE MASON UNIVERSITY
Course Coordination Form

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

Graduate Council representative: ______________________________________ Date: ____________

Provost Office representative: ________________________________ Date: ____________
I. CATALOG DESCRIPTION

A. CEIE 663 Intelligent Transportation Systems (3:3:0)

B. Prerequisite: CEIE 561 or CEIE 562

C. Catalog Description:

Advanced transportation system operations and safety through the use of wireless and wireline communications; integrated transportation systems; in-vehicle technologies; industry standards; and systems architecture.

II. JUSTIFICATION

Course necessity: This course will provide students with the skills necessary to apply advanced technologies to transportation systems to improve operational and safety performance. The course provides non-traditional tools to address issues of congestion and improved safety performance. Other courses that are offered round out students skill set by providing them the means to analyze the impact of traditional improvements (for example, expanding roadway capacity through additional lanes; addition of transit, etc.).

Relationship to other courses: This course builds upon the introductory transportation topics covered in CEIE 561 Traffic Engineering and planning approaches covered in CEIE 562 Urban Transportation Planning.

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 2001 and 2004. It is one of three elective courses offered in the Spring Semester and it is anticipated that it will be offered again in Spring 2007.

Existing Faculty With Expertise in Subject Area
CEIE faculty members Aimee Flannery and Mohan Venigalla

V. COURSE OUTLINE

1. ITS History
2. Advanced Traffic Management Systems
3. Electronic Toll Collection
4. Advanced Traveler Information Systems
5. Commercial Vehicle Operations
6. Standards for ITS
7. ITS National Architecture
8. Vehicel-Based Technologies
9. ITS and the Planning Process
10. Communications
11. Advanced Roadway Technologies

Course Text: ITS Primer, publisher, ITS America, and supplemental reading

Course Requirements and Grading

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<tr>
<td>Term Project</td>
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