

PURDUE UNIVERSITY

Print Form

Office of the Registrar
FORM 40G REV. 10/10

REQUEST FOR ADDITION, EXPIRATION,
OR REVISION OF A GRADUATE COURSE
(50000-60000 LEVEL)

EFD 15-11

DEPARTMENT School of Aeronautics & Astronautics EFFECTIVE SESSION Fall 2011

INSTRUCTIONS: Please check the items below which describe the purpose of this request.

- | | | | |
|-------------------------------------|--|--------------------------|---|
| <input type="checkbox"/> | 1. New course with supporting documents (complete proposal form) | <input type="checkbox"/> | 7. Change in course attributes |
| <input type="checkbox"/> | 2. Add existing course offered at another campus | <input type="checkbox"/> | 8. Change in instructional hours |
| <input checked="" type="checkbox"/> | 3. Expiration of a course | <input type="checkbox"/> | 9. Change in course description |
| <input type="checkbox"/> | 4. Change in course number | <input type="checkbox"/> | 10. Change in course requisites |
| <input type="checkbox"/> | 5. Change in course title | <input type="checkbox"/> | 11. Change in semesters offered |
| <input type="checkbox"/> | 6. Change in course credit/type | <input type="checkbox"/> | 12. Transfer from one department to another |

PROPOSED: Subject Abbreviation _____ EXISTING: Subject Abbreviation AAE
 Course Number _____ Course Number 69600
 Long Title Theory and Practice of Multivariable Control
 Short Title _____

TERMS OFFERED
Check All That Apply:
 Fall Spring Summer

CAMPUS(ES) INVOLVED
 Calumet N. Central
 Cont Ed Tech Statewide
 Ft. Wayne W. Lafayette
 Indianapolis

Abbreviated title will be entered by the Office of the Registrar if omitted. (30 CHARACTERS ONLY)

CREDIT TYPE
 1. Fixed Credit: Cr. Hrs.
 2. Variable Credit Range:
 Minimum Cr. Hrs
 (Check One) To Or
 Maximum Cr. Hrs.
 3. Equivalent Credit: Yes No
 4. Thesis Credit: Yes No

COURSE ATTRIBUTES: Check All That Apply
 1. Pass/Not Pass Only
 2. Satisfactory/Unsatisfactory Only
 3. Repeatable
 Maximum Repeatable Credit:
 4. Credit by Examination
 5. Special Fees
 6. Registration Approval Type
 Department Instructor
 7. Variable Title
 8. Honors
 9. Full Time Privilege
 10. Off Campus Experience

Schedule Type	Minutes Per Mtn	Meetings Per Week	Weeks Offered	% of Credit Allocated
Lecture				
Simulation				
Representation				
Laboratory				
Lab Prep				
Studio				
Distance				
Clinic				
Experiential				
Research				
Ind. Study				
Pract/Observ				

Cross-Listed Courses

COURSE DESCRIPTION (INCLUDE REQUISITES/RESTRICTIONS):

RECEIVED
 OFFICE OF THE REGISTRAR
 2011 JAN 26 AM 10:05

Calumet Department Head _____ Date _____	Calumet School Dean _____ Date _____	Calumet Undergrad Curriculum Committee _____ Date _____
Fort Wayne Department Head _____ Date _____	Fort Wayne School Dean _____ Date _____	Fort Wayne Chancellor <u>R. Cipra</u> <u>11/30/2010</u> Date _____
Indianapolis Department Head _____ Date _____	Indianapolis School Dean _____ Date _____	Undergrad Curriculum Committee _____ Date _____
North Central Department Head _____ Date _____	North Central School Dean _____ Date _____	Date Approved by Graduate Council _____ Date _____
West Lafayette Department Head <u>11/15/10</u> Date _____	West Lafayette College/School Dean <u>Michael G. Hantz</u> <u>11/29/2010</u> Date _____	Graduate Council Secretary <u>Anna L. Payne</u> <u>1/25/11</u> Date _____
Graduate Area Committee Convener _____ Date _____	Graduate Dean <u>Phillip E. Pope</u> <u>1/24/11</u> Date _____	West Lafayette Registrar <u>[Signature]</u> <u>1/27/11</u> Date _____

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PROPOSED:

EXISTING:

Subject Abbreviation _____ Subject Abbreviation AAE
 Course Number _____ Course Number 69600
 Long Title _____
 Short Title _____

TERMS OFFERED

Check All That Apply:

Fall Spring Summer

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 9. Full Time Privilege
 10. Off Campus Experience

Schedule Type	Minutes Per Mto	Meetings Per Week	Weeks Offered	% of Credit Allocated
Lecture	_____	_____	_____	_____
Recitation	_____	_____	_____	_____
Presentation	_____	_____	_____	_____
Laboratory	_____	_____	_____	_____
Lab Prep	_____	_____	_____	_____
Studio	_____	_____	_____	_____
Distance	_____	_____	_____	_____
Clinic	_____	_____	_____	_____
Experiential	_____	_____	_____	_____
Research	_____	_____	_____	_____
Ind. Study	_____	_____	_____	_____
Pract/Observ	_____	_____	_____	_____

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Fort Wayne Department Head _____ Date _____	Fort Wayne School Dean _____ Date _____	Fort Wayne Chancellor _____ Date _____
Indianapolis Department Head _____ Date _____	Indianapolis School Dean _____ Date _____	<i>R. Cipra</i> <u>11/30/2010</u> Undergrad Curriculum Committee _____ Date _____
North Central Department Head _____ Date _____	North Central School Dean _____ Date _____	Date Approved by Graduate Council _____
<i>A. H. H.</i> <u>11/15/10</u> West Lafayette Department Head _____ Date _____	<i>Michael J. Hain</i> <u>11/29/2010</u> West Lafayette College/School Dean _____ Date _____	Graduate Council Secretary _____ Date _____
Graduate Area Committee Convener _____ Date _____	Graduate Dean _____ Date _____	West Lafayette Registrar _____ Date _____

OFFICE OF THE REGISTRAR

TO: The Faculty of the College of Engineering
FROM: The Faculty of the School of Aeronautics and Astronautics
RE: Deletion of AAE 69600

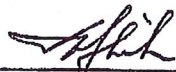
The faculty of the School of Aeronautics and Astronautics has approved the deletion of the following course. This action is now submitted to the Engineering Faculty with a recommendation for approval.

AAE 69600 Theory and Practice of Multivariable Control
Sem. 1, Class 3, Cr. 3
Prerequisite: AAE 56400 or consent of instructor.

Theory, methodology, and software productivity tools for the analysis and design of model-based control systems with multiple actuators and multiple sensors. Control oriented model parameterizations and modeling errors. Definitions and criteria for robust stability and performance. Linear controller synthesis: formulation and solution to the H2 and H_∞ optimization problems. Design methodologies based on the H2 and H_∞ optimization problems: practical cost functions, use of frequency shaping filters, and design iterations. Methods to simplify the control law: state-space truncation/residualization of plant model or controller. Practical considerations: nonlinear fixes to accommodate actuator limits, control law discretization, and input/output scaling of control law. Mechatronic design examples.

Reason:

The course has not been taught for an extended period of time and content is included in currently offered courses. Course has been deleted from the curriculum.



Tom I-P. Shih, Professor and Head
School of Aeronautics & Astronautics

APPROVED FOR THE FACULTY
OF THE SCHOOLS OF ENGINEERING
BY THE ENGINEERING
CURRICULUM COMMITTEE

ECC Minutes #4

Date 10/19/10

Chairman ECC R. Cipra

