New Course Request

1. School/Division: School of Engineering & Technology
2. Academic Subject Code: MSTE
3. Course Number: 497 (must be cleared with University Enrollment Services)
4. Instructor: Pete Hylton
5. Course Title: Motorsports Design Project (Independent Study)
6. First time this course is to be offered (Semester/Year): Fall 2009
7. Credit Hours: Fixed at 3 or Variable from ___ to ___
8. Is this course to be graded S/F (only)? Yes ___ No ___ X
9. Is variable title approval being requested? Yes ___ No ___ X
10. Course Description (not to exceed 50 words) for Bulletin publication:

   "P: MSTE 311 and MSTE 331 and MSTE 350 and MSTE 320. This is an independent study version of the MSTE 414 culminating course in the Motorsports Engineering Plan of Study, tying together concepts from all the other courses in the curriculum, and requires a capstone design project representative of a real world project within the Motorsports Industry."

11. Lecture Contact Hours: Fixed at ___ or Variable from ___ to ___
12. Non-Lecture Contact Hours: Fixed at ___ or Variable from ___ to ___
13. Estimated enrollment: 25 of which 0 percent are expected to be graduate students.
14. Frequency of scheduling: Yearly. Will this course be required for majors? Yes ___
15. Justification for new course: Part of the already approved BS in Motorsports Engineering
16. Are the necessary reading materials currently available in the appropriate library? Yes ___
17. Please append a complete outline of the proposed course, and indicate instructors (if known), textbooks, and other materials
18. If this course overlaps with existing courses, please explain with which courses it overlaps and whether this overlap is necessary, desirable, or unimportant
19. A copy of every new course proposal must be submitted to departments, schools, or divisions in which there may be overlap of the new course with existing courses or areas of strong concern, with instructions that they send comments directly to the originating Curriculum Committee. Please append a list of departments, schools, or divisions thus consulted.

Signed by: [Signature]
Date: 11/21/08

Approved by: [Signature]
Date: 11-25-08

Dean of Graduate School (when requested) 

After School/Division approval, forward the last copy (without attachments) to University Enrollment Services for initial processing, and the remaining four copies and attachments to the Campus Chancellor or Vice-President!
PURDUE SCHOOL OF ENGINEERING & TECHNOLOGY
OUTCOMES AND ASSESSMENT DATA SHEET

This is an internal document to identify and record expected outcomes and anticipated assessment strategies for all courses taught within the School of Engineering and Technology. Submission of this form, as noted below, is required and must accompany all new course and course change requests. Copies of this form should also be retained within the department and kept on file with the outline or syllabus for each course.

Course Number: MSTE 497  Course Title: Motorsports Design Project

Procedure:

First, identify all instructional outcomes expected for this course, and then select all ABET
TABLE 2 - MATRIX OF EXPECTED COURSE OUTCOMES

(Suggestion - while completing Table 2, place a copy of the ABET outcomes from Table 1 along side for easy cross referencing.)

<table>
<thead>
<tr>
<th>PRINCIPLES OF UNDERGRADUATE LEARNING - &quot; Require all students to demonstrate an ability to&quot;</th>
<th>ENGINEERING OUTCOMES - EAC CRITERIA - Items (a) to (k)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1(a) - Express ideas and facts effectively in written format</td>
<td>a b c d e f g h i j k</td>
</tr>
<tr>
<td>1(b) - Comprehend, interpret, and analyze texts</td>
<td></td>
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<tr>
<td>1(c) - Communicate orally in one-on-one and group settings</td>
<td></td>
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<tr>
<td>1(d) - Solve problems that are quantitative in nature</td>
<td>X</td>
</tr>
<tr>
<td>1(e) - Make efficient use of information resources and technology for personal and professional needs</td>
<td>X</td>
</tr>
</tbody>
</table>
MSTE 497 – Motorsports Design Project

Description: This is the independent study version of the Motorsports Engineering Capstone Design course (MSTE 414). The project executed under this course must tie together all that has been studied in past classes into an industry caliber design project.

Concept: The design project requires a student or group of to thoroughly develop the design for a selected project. The project team will perform the tasks normally associated with a design effort in industry, including concept development, scheduling, cost estimates, design, engineering analysis, drawing production, specification preparation, risk management, and preparation for a Preliminary Design Review (PDR) presentation and a Final Report and Final Design Review (FDR) presentation.

Prerequisites: MSTE 311 and MSTE 331 and MSTE 350 and MSTE 320
Scheduled Class Meetings: as scheduled with instructor
Instructor: Pete Hylton
Phone: 317-274-7192, Email: phylton@iupui.edu, Office: ET209G
Text: Design Concepts for Engineers, 3rd edition, by Horeinstein

Topics which must be demonstrated during the course of the project include the following:

Exact scope of the project will be agreed upon in advance by the professor and student(s).

Outcomes:
1. Apply knowledge of mathematics, science, and engineering to the solution of complex and comprehensive design problems relative to the motorsports industry.
2. Design a system, component, or process to meet desired needs pertinent to the motorsports industry.
3. Identify, formulate, and solve engineering problems.
4. Recognize professional and ethical responsibility.
5. Communicate effectively in written reports and oral presentations.
6. Use the techniques, skill, and modern engineering tools necessary for engineering practice in the motorsports industry.
### DEPARTMENT: Motorsports Engineering  
### EFFECTIVE SESSION: Fall 2009

#### INSTRUCTIONS:
Check the items below which describe the purpose of this request.

- [ ] New course with supporting documents
- [ ] Add existing course offered at another campus
- [ ] Expiration of a course
- [ ] Change in course number
- [ ] Change in course title
- [ ] Change in course credit/typeid
- [ ] Change in course attributes (department head signature only)
- [ ] Change in instructional hours
- [ ] Change in course description
- [ ] Change in course prerequisites
- [ ] Change in semesters offered (department head signature only)
- [ ] Transfer from one department to another

#### PROPOSED:

<table>
<thead>
<tr>
<th>Subject Abbreviation</th>
<th>Subject Abbreviation</th>
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<tbody>
<tr>
<td>Motorsports</td>
<td>Motorsports</td>
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<tr>
<td>Engineering</td>
<td>Engineering</td>
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<table>
<thead>
<tr>
<th>Course Number</th>
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<tbody>
<tr>
<td>407</td>
<td>407</td>
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</table>

<table>
<thead>
<tr>
<th>Long Title</th>
<th>Short Title</th>
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<tbody>
<tr>
<td>Motorsports Design Project (Independent Study)</td>
<td>Motorsports Project</td>
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</tbody>
</table>

Abbreviated title will be entered by the Office of the Registrar if permitted. (52 CHARACTERS ONLY)

#### CREDIT TYPE:

- [ ] Fixed Credit Cr. Hrs.
- [ ] Variable Credit Range
- [ ] Equivalent Credit
- [ ] Thesis Credit

<table>
<thead>
<tr>
<th>Instructional Type</th>
<th>Minutes Per Wk</th>
<th>Meetings Per Week</th>
<th>Weeks Offered</th>
<th>% of Credit Allocated</th>
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<tbody>
<tr>
<td>Lecture</td>
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<td>Recitation</td>
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<tr>
<td>Pract/Observational</td>
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</tbody>
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#### COURSE ATTRIBUTES:

- [ ] Pass/Not Pass Only
- [ ] Satisfactory/Unsatisfactory Only
- [ ] Repeatable
- [ ] Maximum Repeatable Credit
- [ ] Credit by Examination
- [ ] Designator Required
- [ ] Full Time Privilege
- [ ] Special Fees

#### CAMPUS(ES) INVOLVED:

- [ ] Summer
- [ ] Fall
- [ ] Spring

- [ ] Calumet
- [ ] Cont Ed
- [ ] Tech Statewide
- [ ] Ft. Wayne
- [ ] Indianapolis

- [x] N Central
- [ ] W. Lafayette

#### COURSE DESCRIPTION (INCLUDE REQUISITES):

P. MSTE 311 and MSTE 331 and MSTE 350 and MSTE 320. This is an independent study version of the MSTE 414 culminating course in the Motorsports Engineering Plan of Study, tying together concepts from all the other courses in the curriculum, and requires a capstone design project representative of a real world project within the Motorsports industry.

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Calumet Department Head:  
Calumet School Dean:  
Date:  
Date:  

Fort Wayne Department Head:  
Fort Wayne School Dean:  
Date:  
Date:  

Indianapolis Department Head:  
Indianapolis School Dean:  
Date:  
Date:  

North Central Department Head:  
North Central Chancellor:  
Date:  
Date:  

West Lafayette Department Head:  
West Lafayette College/School Dean:  
Date:  
Date:  

West Lafayette Registrar:  
Date:  

OFFICE OF THE REGISTRAR