

TO: The Faculty of the College of Engineering

FROM: Dr. Michael Harris, Associate Dean for Undergraduate Education *MH*

RE: Change in requisites to accommodate the inclusion of PHYS 17200 in the new curriculum of the Honors Engineering courses, ENGR 16100 and 16200

To facilitate the changes in the courses which require PHYS 17200 as a requisite, this **Fast-Track EFD** is being submitted on behalf of the schools listed below.

AAE 20300

From: (Undergraduate level PHYS 17200 Minimum Grade of D- or (Undergraduate level PHYS 16200 Minimum Grade of D- and Undergraduate level PHYS 16300 Minimum Grade of D-)) and (Undergraduate level MA 26100 Minimum Grade of D- [may be taken concurrently] or Undergraduate level MA 26300 Minimum Grade of D- [may be taken concurrently] or Undergraduate level MA 17200 Minimum Grade of D- [may be taken concurrently] or Undergraduate level MA 18200 Minimum Grade of D- [may be taken concurrently] or Undergraduate level MA 27100 Minimum Grade of D- [may be taken concurrently] or Undergraduate level MA 17400 Minimum Grade of D- [may be taken concurrently])

To: (Undergraduate level PHYS 17200 Minimum Grade of D- or (Undergraduate level PHYS 16200 Minimum Grade of D- and Undergraduate level PHYS 16300 Minimum Grade of D-) **or Undergraduate level ENGR 16200**) and (Undergraduate level MA 26100 Minimum Grade of D- [may be taken concurrently] or Undergraduate level MA 26300 Minimum Grade of D- [may be taken concurrently] or Undergraduate level MA 17200 Minimum Grade of D- [may be taken concurrently] or Undergraduate level MA 18200 Minimum Grade of D- [may be taken concurrently] or Undergraduate level MA 27100 Minimum Grade of D- [may be taken concurrently] or Undergraduate level MA 17400 Minimum Grade of D- [may be taken concurrently])

ABE 20500

From: (Undergraduate level ENGR 12600 Minimum Grade of C- or Undergraduate level ENGR 12100 Minimum Grade of C- or Undergraduate level ENGR 13200 Minimum Grade of C- or Undergraduate level ENGR 13300 Minimum Grade of C- or Undergraduate level ENGR 14200 Minimum Grade of C-) and Undergraduate level PHYS 17200 Minimum Grade of C- [may be taken concurrently]

To: (Undergraduate level ENGR 12600 Minimum Grade of C- or Undergraduate level ENGR 12100 Minimum Grade of C- or Undergraduate level ENGR 13200 Minimum Grade of C- or Undergraduate level ENGR 13300 Minimum Grade of C- or Undergraduate level ENGR 14200 Minimum Grade of C- **or Undergraduate level ENGR 16200 Minimum Grade of C-**) and (Undergraduate level PHYS 17200 Minimum Grade of C- [may be taken concurrently] **or Undergraduate level ENGR 16200 Minimum Grade of C-**)

Approved for the faculty of the Schools
of Engineering by the Engineering
Curriculum Committee

ECC Minutes 10 Date 2-16-17
Chairman ECC [Signature]

ABE 21000

From: (Undergraduate level CHM 11500 Minimum Grade of D- and Undergraduate level PHYS 17200 Minimum Grade of D-)

To: Undergraduate level CHM 11500 Minimum Grade of D- and (Undergraduate level PHYS 17200 Minimum Grade of D- or **Undergraduate level ENGR 16200 Minimum Grade C-**)

CE 29700

From: (Undergraduate level MA 26100 Minimum Grade of C- [may be taken concurrently] or Undergraduate level MA 27100 Minimum Grade of C- [may be taken concurrently] or Undergraduate level MA 18200 Minimum Grade of C- [may be taken concurrently] or Undergraduate level MA 26300 Minimum Grade of C- [may be taken concurrently] or Undergraduate level MA 17400 Minimum Grade of C- [may be taken concurrently]) and (Undergraduate level PHYS 17200 Minimum Grade of D- or Undergraduate level PHYS 15200 Minimum Grade of D- or (Undergraduate level PHYS 16200 Minimum Grade of D- and Undergraduate level PHYS 16300 Minimum Grade of D-))

To: (Undergraduate level MA 26100 Minimum Grade of C- [may be taken concurrently] or Undergraduate level MA 27100 Minimum Grade of C- [may be taken concurrently] or Undergraduate level MA 18200 Minimum Grade of C- [may be taken concurrently] or Undergraduate level MA 26300 Minimum Grade of C- [may be taken concurrently] or Undergraduate level MA 17400 Minimum Grade of C- [may be taken concurrently]) and (**Undergraduate level ENGR 16200 Minimum Grade of C-** or Undergraduate level PHYS 17200 Minimum Grade of D- or Undergraduate level PHYS 15200 Minimum Grade of D- or (Undergraduate level PHYS 16200 Minimum Grade of D- and Undergraduate level PHYS 16300 Minimum Grade of D-))

CE 35000/EEE 35000

From: (Undergraduate level MA 16200 Minimum Grade of D- or Undergraduate level MA 16600 Minimum Grade of D- or Undergraduate level MA 17300 Minimum Grade of D- or Undergraduate level MA 22200 Minimum Grade of D- or Undergraduate level MA 22400 Minimum Grade of D- or Undergraduate level MA 16020 Minimum Grade of D- or Undergraduate level MA 16400 Minimum Grade of D- or Undergraduate level MA 16900 Minimum Grade of D- or Undergraduate level MA 18100 Minimum Grade of D-) and (Undergraduate level CHM 11200 Minimum Grade of D- or Undergraduate level CHM 11600 Minimum Grade of D- or Undergraduate level CHM 13600 Minimum Grade of D- or Undergraduate level CHM 12600 Minimum Grade of D- or Undergraduate level CHM 12400 Minimum Grade of D- or Undergraduate level CHM 12901 Minimum Grade of D- or (Undergraduate level CHM C1060 Minimum Grade of D- and Undergraduate level CHM C1260 Minimum Grade of D-) or (Undergraduate level CHEM C1020 Minimum Grade of D- and Undergraduate level CHEM C1220 Minimum Grade of D-)) and (Undergraduate level PHYS 17200 Minimum Grade of D- or Undergraduate level PHYS 22000 Minimum Grade of D- or Undergraduate level PHYS 15200 Minimum Grade of D- or Undergraduate level PHYS 23300 Minimum Grade of D-)

To: From: (Undergraduate level MA 16200 Minimum Grade of D- or Undergraduate level MA 16600 Minimum Grade of D- or Undergraduate level MA 17300 Minimum Grade of D- or Undergraduate level MA 22200 Minimum Grade of D- or Undergraduate level MA 22400 Minimum Grade of D- or Undergraduate level MA 16020 Minimum Grade of D- or Undergraduate level MA 16400 Minimum

Grade of D- or Undergraduate level MA 16900 Minimum Grade of D- or Undergraduate level MA 18100 Minimum Grade of D-) and (Undergraduate level CHM 11200 Minimum Grade of D- or Undergraduate level CHM 11600 Minimum Grade of D- or Undergraduate level CHM 13600 Minimum Grade of D- or Undergraduate level CHM 12600 Minimum Grade of D- or Undergraduate level CHM 12400 Minimum Grade of D- or Undergraduate level CHM 12901 Minimum Grade of D- or (Undergraduate level CHM C1060 Minimum Grade of D- and Undergraduate level CHM C1260 Minimum Grade of D-) or (Undergraduate level CHEM C1020 Minimum Grade of D- and Undergraduate level CHEM C1220 Minimum Grade of D-)) and (**Undergraduate level ENGR 16200 Minimum Grade of D- or Undergraduate level PHYS 17200 Minimum Grade of D- or Undergraduate level PHYS 22000 Minimum Grade of D- or Undergraduate level PHYS 15200 Minimum Grade of D- or Undergraduate level PHYS 23300 Minimum Grade of D-**)

CHE 20500

From: ((Undergraduate level ENGR 12600 Minimum Grade of D- or Undergraduate level ENGR 12100 Minimum Grade of D- or Undergraduate level ENGR 13100 Minimum Grade of D- or Undergraduate level ENGR 19500 Minimum Grade of D- or Undergraduate level ENGR 14100 Minimum Grade of D-) and Undergraduate level PHYS 17200 Minimum Grade of D- or (Undergraduate level PHYS 16200 Minimum Grade of D- and Undergraduate level PHYS 16300 Minimum Grade of D-) and (Undergraduate level MA 16100 Minimum Grade of D- or Undergraduate level MA 16700 Minimum Grade of D- or Undergraduate level MA 16300 Minimum Grade of D- or Undergraduate level MATH 16300 Minimum Grade of D- or Undergraduate level MA 16500 Minimum Grade of D-) and (Undergraduate level CHM 11600 Minimum Grade of D- [may be taken concurrently] or Undergraduate level CHM 13600 Minimum Grade of D- [may be taken concurrently] or Undergraduate level CHM 12400 Minimum Grade of D- [may be taken concurrently] or Undergraduate level CHM 12600 Minimum Grade of D- [may be taken concurrently] or Undergraduate level CHM 11000 Minimum Grade of D- [may be taken concurrently])Minimum Grade of D- [may be taken concurrently])

To: (Undergraduate level ENGR 12600 Minimum Grade of D- or Undergraduate level ENGR 12100 Minimum Grade of D- or Undergraduate level ENGR 13100 Minimum Grade of D- or Undergraduate level ENGR 19500 Minimum Grade of D- or Undergraduate level ENGR 14100 Minimum Grade of D- **or Undergraduate level ENGR 16100 Minimum Grade of D-**) and Undergraduate level PHYS 17200 Minimum Grade of D- or (Undergraduate level PHYS 16200 Minimum Grade of D- and Undergraduate level PHYS 16300 Minimum Grade of D-) or (**Undergraduate level ENGR 16200 Minimum Grade of D-**) and (Undergraduate level MA 16100 Minimum Grade of D- or Undergraduate level MA 16700 Minimum Grade of D- or Undergraduate level MA 16300 Minimum Grade of D- or Undergraduate level MATH 16300 Minimum Grade of D- or Undergraduate level MA 16500 Minimum Grade of D-) and (Undergraduate level CHM 11600 Minimum Grade of D- [may be taken concurrently] or Undergraduate level CHM 13600 Minimum Grade of D- [may be taken concurrently] or Undergraduate level CHM 12400 Minimum Grade of D- [may be taken concurrently] or Undergraduate level CHM 12600 Minimum Grade of D- [may be taken concurrently] or Undergraduate level CHM 11000 Minimum Grade of D- [may be taken concurrently])minimum Grade of D- [may be taken concurrently])

EEE 35000/CE 35000

From: (Undergraduate level MA 16200 Minimum Grade of D- or Undergraduate level MA 16600 Minimum Grade of D- or Undergraduate level MA 17300 Minimum Grade of D- or Undergraduate level MA 22200 Minimum Grade of D- or Undergraduate level MA 22400 Minimum Grade of D- or Undergraduate level MA 16020 Minimum Grade of D- or Undergraduate level MA 16400 Minimum Grade of D- or Undergraduate level MA 16900 Minimum Grade of D- or Undergraduate level MA 18100 Minimum Grade of D-) and (Undergraduate level CHM 11200 Minimum Grade of D- or Undergraduate level CHM 11600 Minimum Grade of D- or Undergraduate level CHM 13600 Minimum Grade of D- or Undergraduate level CHM 12600 Minimum Grade of D- or Undergraduate level CHM 12400 Minimum Grade of D- or Undergraduate level CHM 12901 Minimum Grade of D-) or (Undergraduate level CHEM C1220 Minimum Grade of D- and Undergraduate level CHEM C1020 Minimum Grade of D-) or (Undergraduate level CHEM C1060 Minimum Grade of D- and Undergraduate level CHEM C1260 Minimum Grade of D-) and (Undergraduate level PHYS 17200 Minimum Grade of D- or Undergraduate level PHYS 22000 Minimum Grade of D- or Undergraduate level PHYS 15200 Minimum Grade of D- or Undergraduate level PHYS 23300 Minimum Grade of D-)

To: (Undergraduate level MA 16200 Minimum Grade of D- or Undergraduate level MA 16600 Minimum Grade of D- or Undergraduate level MA 17300 Minimum Grade of D- or Undergraduate level MA 22200 Minimum Grade of D- or Undergraduate level MA 22400 Minimum Grade of D- or Undergraduate level MA 16020 Minimum Grade of D- or Undergraduate level MA 16400 Minimum Grade of D- or Undergraduate level MA 16900 Minimum Grade of D- or Undergraduate level MA 18100 Minimum Grade of D-) and (Undergraduate level CHM 11200 Minimum Grade of D- or Undergraduate level CHM 11600 Minimum Grade of D- or Undergraduate level CHM 13600 Minimum Grade of D- or Undergraduate level CHM 12600 Minimum Grade of D- or Undergraduate level CHM 12400 Minimum Grade of D- or Undergraduate level CHM 12901 Minimum Grade of D-) or (Undergraduate level CHEM C1220 Minimum Grade of D- and Undergraduate level CHEM C1020 Minimum Grade of D-) or (Undergraduate level CHEM C1060 Minimum Grade of D and Undergraduate level CHEM C1260 Minimum Grade of D-) and (**Undergraduate level ENGR 16200 Minimum Grade of D-** or Undergraduate level PHYS 17200 Minimum Grade of D- or Undergraduate level PHYS 22000 Minimum Grade of D- or Undergraduate level PHYS 15200 Minimum Grade of D- or Undergraduate level PHYS 23300 Minimum Grade of D-)

NUCL 20000

From: (Undergraduate level MA 16200 Minimum Grade of D- or Undergraduate level MA 16900 Minimum Grade of D- or Undergraduate level MA 16600 Minimum Grade of D- or Undergraduate level MA 16400 Minimum Grade of D- or Undergraduate level MA 17100 Minimum Grade of D- or Undergraduate level MA 17300 Minimum Grade of D- or Undergraduate level MATH 16400 Minimum Grade of D- or Undergraduate level MATH M2160 Minimum Grade of D- or Undergraduate level MA 18100 Minimum Grade of D-) and (Undergraduate level PHYS 15200 Minimum Grade of D- or Undergraduate level PHYS 17200 Minimum Grade of D-) or (Undergraduate level PHYS 16200 Minimum Grade of D- and Undergraduate level PHYS 16300 Minimum Grade of D-)

To: : (Undergraduate level MA 16200 Minimum Grade of D- or Undergraduate level MA 16900 Minimum Grade of D- or Undergraduate level MA 16600 Minimum Grade of D- or Undergraduate level

MA 16400 Minimum Grade of D- or Undergraduate level MA 17100 Minimum Grade of D- or Undergraduate level MA 17300 Minimum Grade of D- or Undergraduate level MATH 16400 Minimum Grade of D- or Undergraduate level MATH M2160 Minimum Grade of D- or Undergraduate level MA 18100 Minimum Grade of D-) and (Undergraduate level PHYS 15200 Minimum Grade of D- or Undergraduate level PHYS 17200 Minimum Grade of D-) or (Undergraduate level PHYS 16200 Minimum Grade of D- and Undergraduate level PHYS 16300 Minimum Grade of D-) or (**Undergraduate level ENGR 16200 minimum grade of D-**)

PURDUE UNIVERSITY
REQUEST FOR ADDITION, EXPIRATION,
OR REVISION OF AN UNDERGRADUATE COURSE
(10000-40000 LEVEL)

Print Form

DEPARTMENT Nuclear Engineering

EFFECTIVE SESSION Fall 2017

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

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

PROPOSED:

EXISTING:

Subject Abbreviation _____ Subject Abbreviation NUCL 20000

Course Number _____ Course Number _____

Long Title Introduction to Nuclear Engineering

Short Title _____

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

TERMS OFFERED
Check All That Apply:

Fall Spring Summer

CAMPUS(ES) INVOLVED

Calumet N. Central
 Cont Ed Tech Statewide
 Ft. Wayne W. Lafayette
 Indianapolis

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

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. Fees: Coop Lab Rate Request
 Include comment to explain fee
 6. Registration Approval Type
 Department Instructor
 7. Variable Title
 8. Honors
 9. Full Time Privilege
 10. Off Campus Experience

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

Cross-Listed Courses

COURSE DESCRIPTION (INCLUDE REQUISITES/RESTRICTIONS):

(Undergraduate level MA 16200 Minimum Grade of D- or Undergraduate level MA 16900 Minimum Grade of D- or Undergraduate level MA 16600 Minimum Grade of D- or Undergraduate level MA 16400 Minimum Grade of D- or Undergraduate level MA 17100 Minimum Grade of D- or Undergraduate level MA 17300 Minimum Grade of D- or Undergraduate level MATH 16400 Minimum Grade of D- or Undergraduate level MATH M2160 Minimum Grade of D- or Undergraduate level MA 18100 Minimum Grade of D-) and (Undergraduate level PHYS 15200 Minimum Grade of D- or Undergraduate level PHYS 17200 Minimum Grade of D-) or (Undergraduate level PHYS 16200 Minimum Grade of D- and Undergraduate level PHYS 16300 Minimum Grade of D-) or (Undergraduate level ENGR 16200 minimum grade of D-)

***COURSE LEARNING OUTCOMES:**

Calumet Department Head _____ Date _____	Calumet School Dean _____ Date _____
Fort Wayne Department Head _____ Date _____	Fort Wayne School Dean _____ Date _____
Indianapolis Department Head _____ Date _____	Indianapolis School Dean _____ Date _____
North Central Faculty Senate Chair <u>J. B. Biederman</u> _____ Date <u>1-26-17</u>	Vice Chancellor for Academic Affairs _____ Date <u>2/6/17</u>
West Lafayette Department Head _____ Date _____	West Lafayette College/School Dean _____ Date _____

West Lafayette Registrar _____ Date _____

PURDUE UNIVERSITY
REQUEST FOR ADDITION, EXPIRATION,
OR REVISION OF AN UNDERGRADUATE COURSE
(10000-40000 LEVEL)

Print Form

DEPARTMENT Environmental and Ecological Engineering

EFFECTIVE SESSION Fall 2017

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

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

PROPOSED: Subject Abbreviation _____ Course Number _____ Long Title Introduction To Environmental And Ecological Engineering Short Title _____	EXISTING: Subject Abbreviation EEE 35000 Course Number _____	TERMS OFFERED Check All That Apply: <input type="checkbox"/> Fall <input type="checkbox"/> Spring <input type="checkbox"/> Summer
Abbreviated title will be entered by the Office of the Registrar if omitted. (30 CHARACTERS ONLY)		CAMPUS(ES) INVOLVED <input type="checkbox"/> Calumet <input type="checkbox"/> N. Central <input type="checkbox"/> Cont Ed <input type="checkbox"/> Tech Statewide <input type="checkbox"/> Ft. Wayne <input type="checkbox"/> W. Lafayette <input type="checkbox"/> Indianapolis

CREDIT TYPE 1. Fixed Credit: Cr. Hrs. _____ 2. Variable Credit Range: Minimum Cr. Hrs. _____ (Check One) To <input type="checkbox"/> Or <input type="checkbox"/> Maximum Cr. Hrs. _____ 3. Equivalent Credit: Yes <input type="checkbox"/> No <input type="checkbox"/>	COURSE ATTRIBUTES: Check All That Apply 1. Pass/Not Pass Only <input type="checkbox"/> 2. Satisfactory/Unsatisfactory Only <input type="checkbox"/> 3. Repeatable <input type="checkbox"/> Maximum Repeatable Credit: _____ 4. Credit by Examination <input type="checkbox"/> 5. Fees: <input type="checkbox"/> Coop <input type="checkbox"/> Lab <input type="checkbox"/> Rate Request Include comment to explain fee 6. Registration Approval Type Department <input type="checkbox"/> Instructor <input type="checkbox"/> 7. Variable Title <input type="checkbox"/> 8. Honors <input type="checkbox"/> 9. Full Time Privilege <input type="checkbox"/> 10. Off Campus Experience <input type="checkbox"/>
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ScheduleType	Minutes Per Mfg	Meetings Per Week	Weeks Offered	% of Credit Allocated	Cross-Listed Courses CE 35000 _____ _____ _____ _____
Lecture	_____	_____	_____	_____	
Recitation	_____	_____	_____	_____	
Presentation	_____	_____	_____	_____	
Laboratory	_____	_____	_____	_____	
Lab Prep	_____	_____	_____	_____	
Studio	_____	_____	_____	_____	
Distance	_____	_____	_____	_____	
Clinic	_____	_____	_____	_____	
Experiential	_____	_____	_____	_____	
Research	_____	_____	_____	_____	
Ind. Study	_____	_____	_____	_____	
Pract/Observ	_____	_____	_____	_____	

COURSE DESCRIPTION (INCLUDE REQUISITES/RESTRICTIONS):
See attached sheet of paper

*COURSE LEARNING OUTCOMES:

Calumet Department Head _____ Date _____	Calumet School Dean _____ Date _____
Fort Wayne Department Head _____ Date _____	Fort Wayne School Dean _____ Date _____
Indianapolis Department Head _____ Date _____	Indianapolis School Dean _____ Date _____
North Central Faculty Senate Chair _____ Date _____	Vice Chancellor for Academic Affairs _____ Date _____
West Lafayette Department Head _____ Date _____	West Lafayette College/School Dean _____ Date _____
West Lafayette Registrar _____ Date _____	

PURDUE UNIVERSITY
REQUEST FOR ADDITION, EXPIRATION,
OR REVISION OF AN UNDERGRADUATE COURSE
(10000-40000 LEVEL)

DEPARTMENT School of Chemical Engineering (1283) EFFECTIVE SESSION Fall 2017

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

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

PROPOSED: Subject Abbreviation <input type="text"/>	EXISTING: Subject Abbreviation <u>CHE</u>	TERMS OFFERED Check All That Apply: <input type="checkbox"/> Summer <input type="checkbox"/> Fall <input type="checkbox"/> Spring
Course Number <input type="text"/>	Course Number <u>20500</u>	
Long Title <u>Chemical Engineering Calculations</u>	CAMPUS(ES) INVOLVED	
Short Title <input type="text"/>	<input type="checkbox"/> Calumet <input type="checkbox"/> N. Central <input type="checkbox"/> Cont Ed <input type="checkbox"/> Tech Statewide <input type="checkbox"/> Ft. Wayne <input checked="" type="checkbox"/> W. Lafayette <input type="checkbox"/> Indianapolis	
Abbreviated title will be entered by the Office of the Registrar if omitted. (30 CHARACTERS ONLY)		

CREDIT TYPE	COURSE ATTRIBUTES: Check All That Apply
1. Fixed Credit: Cr. Hrs. <input type="text"/>	1. Pass/Not Pass Only <input type="checkbox"/>
2. Variable Credit Range: <input type="text"/>	2. Satisfactory/Unsatisfactory Only <input type="checkbox"/>
Minimum Cr. Hrs. <input type="text"/>	3. Repeatable <input type="checkbox"/>
(Check One) To <input type="checkbox"/> Or <input type="checkbox"/>	Maximum Repeatable Credit: <input type="text"/>
Maximum Cr. Hrs. <input type="text"/>	4. Credit by Examination <input type="checkbox"/>
3. Equivalent Credit: Yes <input type="checkbox"/> No <input type="checkbox"/>	5. Fees <input type="checkbox"/> Coop <input type="checkbox"/> Lab <input type="checkbox"/> Rate Request <input type="checkbox"/>
	6 Registration Approval Type <input type="checkbox"/>
	Department <input type="checkbox"/> Instructor <input type="checkbox"/>
	7 Variable Title <input type="checkbox"/>
	8 Honors <input type="checkbox"/>
	9 Full Time Privilege <input type="checkbox"/>
	10 Off Campus Experience <input type="checkbox"/>
	Include comment to explain fee <input type="text"/>

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

COURSE DESCRIPTION (INCLUDE REQUISITES/RESTRICTIONS):
 (Undergraduate level ENGR 12600 Minimum Grade of D- or Undergraduate level ENGR 12100 Minimum Grade of D- or Undergraduate level ENGR 13100 Minimum Grade of D- or Undergraduate level ENGR 19500 Minimum Grade of D- or Undergraduate level ENGR 14100 Minimum Grade of D- or Undergraduate level ENGR 16100 Minimum Grade of D-) and Undergraduate level PHYS 17200 Minimum Grade of D- or (Undergraduate level PHYS 16200 Minimum Grade of D- and Undergraduate level PHYS 16300 Minimum Grade of D-) or (Undergraduate level ENGR 16200 Minimum Grade of D-) and (Undergraduate level MA 16100 Minimum Grade of D- or Undergraduate level MA 16700 Minimum Grade of D- or Undergraduate level MA 16300 Minimum Grade of D- or Undergraduate level MATH 16300 Minimum Grade of D- or Undergraduate level MA 16500 Minimum Grade of D-) and (Undergraduate level CHM 11600 Minimum Grade of D- [may be taken concurrently] or Undergraduate level CHM 13600 Minimum Grade of D- [may be taken concurrently] or Undergraduate level CHM 12400 Minimum Grade of D- [may be taken concurrently] or Undergraduate level CHM 12600 Minimum Grade of D- [may be taken concurrently] or Undergraduate level CHM 11000 Minimum Grade of D- [may be taken concurrently]) minimum Grade of D- [may be taken concurrently])

***COURSE LEARNING OUTCOMES**

Calumet Department Head	Date	Calumet School Dean	Date
Fort Wayne Department Head	Date	Fort Wayne School Dean	Date
Indianapolis Department Head	Date	Indianapolis School Dean	Date
North Central Faculty Senate Chair	Date	Vice Chancellor for Academic Affairs	Date
<i>David S. Corti</i>	2/26/2017	<i>Michael G. ...</i>	2/26/17
West Lafayette Department Head	Date	West Lafayette College/School Dean	Date
		West Lafayette Registrar	Date

PURDUE UNIVERSITY
REQUEST FOR ADDITION, EXPIRATION,
OR REVISION OF AN UNDERGRADUATE COURSE
(10000-40000 LEVEL)

Print Form

DEPARTMENT Civil Engineering

EFFECTIVE SESSION Fall 2017

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

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

PROPOSED:

EXISTING:

Subject Abbreviation _____ Subject Abbreviation CE 35000
 Course Number _____ Course Number _____
 Long Title Introduction To Environmental And Ecological Engineering
 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

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. Fees: Coop Lab Rate Request
 Include comment to explain fee _____
 6. Registration Approval Type
 Department Instructor
 7. Variable Title
 8. Honors
 9. Full Time Privilege
 10. Off Campus Experience

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

Cross-Listed Courses
EEE 35000

COURSE DESCRIPTION (INCLUDE REQUISITES/RESTRICTIONS):

See attached sheet of paper

***COURSE LEARNING OUTCOMES:**

Calumet Department Head _____ Date _____	Calumet School Dean _____ Date _____
Fort Wayne Department Head _____ Date _____	Fort Wayne School Dean _____ Date _____
Indianapolis Department Head _____ Date _____	Indianapolis School Dean _____ Date _____
North Central Faculty Senate Chair _____ Date _____	Vice Chancellor for Academic Affairs _____ Date _____
West Lafayette Department Head _____ Date _____	West Lafayette College/School Dean _____ Date _____

West Lafayette Registrar _____ Date _____

OFFICE OF THE REGISTRAR

PURDUE UNIVERSITY
REQUEST FOR ADDITION, EXPIRATION,
OR REVISION OF AN UNDERGRADUATE COURSE
(10000-40000 LEVEL)

Print Form

DEPARTMENT Civil Engineering

EFFECTIVE SESSION Fall 2017

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

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

PROPOSED:

EXISTING:

Subject Abbreviation _____ Subject Abbreviation CE 29700
 Course Number _____ Course Number _____
 Long Title Basic Mechanics I (Statics)
 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

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. Fees: Coop Lab Rate Request
 Include comment to explain fee _____
 6. Registration Approval Type
 Department Instructor
 7. Variable Title
 8. Honors
 9. Full Time Privilege
 10. Off Campus Experience

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

Cross-Listed Courses

COURSE DESCRIPTION (INCLUDE REQUISITES/RESTRICTIONS):
 See attached sheet of paper

***COURSE LEARNING OUTCOMES:**

Calumet Department Head _____ Date _____	Calumet School Dean _____ Date _____
Fort Wayne Department Head _____ Date _____	Fort Wayne School Dean _____ Date _____
Indianapolis Department Head _____ Date _____	Indianapolis School Dean _____ Date _____
North Central Faculty Senate Chair _____ Date _____	Vice Chancellor for Academic Affairs _____ Date _____
West Lafayette Department Head <u>1/31/17</u> _____ Date _____	West Lafayette College/School Dean <u>2/6/17</u> _____ Date _____
	West Lafayette Registrar _____ Date _____

PURDUE UNIVERSITY
REQUEST FOR ADDITION, EXPIRATION,
OR REVISION OF AN UNDERGRADUATE COURSE
(10000-40000 LEVEL)

DEPARTMENT Agricultural and Biological Engineering EFFECTIVE SESSION Fall 2017

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

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

PROPOSED:	EXISTING:
Subject Abbreviation _____	Subject Abbreviation <u>ABE</u>
Course Number _____	Course Number <u>21000</u>
Long Title <u>Thermodynamics Principles Of Engineering And Biological Systems</u>	
Short Title <u>Thermo Prin Of Engr & Bio Sys</u>	
Abbreviated title will be entered by the Office of the Registrar if omitted. (30 CHARACTERS ONLY)	

TERMS OFFERED
Check All That Apply:

Fall Spring Summer

CAMPUS(ES) INVOLVED

<input type="checkbox"/> Calumet	<input type="checkbox"/> N. Central
<input type="checkbox"/> Cont Ed	<input type="checkbox"/> Tech Statewide
<input type="checkbox"/> Ft. Wayne	<input checked="" type="checkbox"/> W. Lafayette
<input type="checkbox"/> Indianapolis	

<p>CREDIT TYPE</p> <p>1. Fixed Credit: Cr. Hrs. <input type="text"/></p> <p>2. Variable Credit Range: Minimum Cr. Hrs. <input type="text"/> (Check One) To <input type="checkbox"/> Or <input type="checkbox"/> Maximum Cr. Hrs. <input type="text"/></p> <p>3. Equivalent Credit: Yes <input type="checkbox"/> No <input type="checkbox"/></p>	<p>COURSE ATTRIBUTES: Check All That Apply</p> <p>1. Pass/Not Pass Only <input type="checkbox"/></p> <p>2. Satisfactory/Unsatisfactory Only <input type="checkbox"/></p> <p>3. Repeatable <input type="checkbox"/> Maximum Repeatable Credit: <input type="text"/></p> <p>4. Credit by Examination <input type="checkbox"/></p> <p>5. Fees: <input type="checkbox"/> Coop <input type="checkbox"/> Lab <input type="checkbox"/> Rate Request <input type="checkbox"/> Include comment to explain fee _____</p> <p>6. Registration Approval Type Department <input type="checkbox"/> Instructor <input type="checkbox"/></p> <p>7. Variable Title <input type="checkbox"/></p> <p>8. Honors <input type="checkbox"/></p> <p>9. Full Time Privilege <input type="checkbox"/></p> <p>10. Off Campus Experience <input type="checkbox"/></p>
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ScheduleType	Minutes Per Mtg	Meetings Per Week	Weeks Offered	% of Credit Allocated	
Lecture	_____	_____	_____	_____	<div style="border: 1px solid black; padding: 5px;"> Cross-Listed Courses _____ _____ _____ _____ _____ _____ _____ _____ _____ _____ _____ _____ </div>
Recitation	_____	_____	_____	_____	
Presentation	_____	_____	_____	_____	
Laboratory	_____	_____	_____	_____	
Lab Prep	_____	_____	_____	_____	
Studio	_____	_____	_____	_____	
Distance	_____	_____	_____	_____	
Clinic	_____	_____	_____	_____	
Experiential	_____	_____	_____	_____	
Research	_____	_____	_____	_____	
Ind. Study	_____	_____	_____	_____	
Pract/Observ	_____	_____	_____	_____	

COURSE DESCRIPTION (INCLUDE REQUISITES/RESTRICTIONS):
 Application of thermodynamic principles to the design and operation of biological and engineering systems. The focus is on mass and energy balances for non-reacting processes and on the second law of thermodynamics. These principles are applied to biological and agricultural engineering systems. Specific topics include refrigeration systems, power cycles, energy conversion systems, and environmental impacts of energy production.

(Undergraduate level CHM 11500 Minimum Grade of D- and (Undergraduate level PHYS 17200 Minimum Grade of D- or Undergraduate level ENGR 16200 Minimum Grade C-)

***COURSE LEARNING OUTCOMES:**

Calumet Department Head _____ Date _____ Fort Wayne Department Head _____ Date _____ Indianapolis Department Head _____ Date _____ North Central Faculty Senate Chair _____ Date _____ West Lafayette Department Head _____ Date _____	Calumet School Dean _____ Date _____ Fort Wayne School Dean _____ Date _____ Indianapolis School Dean _____ Date _____ Vice Chancellor for Academic Affairs _____ Date _____ West Lafayette College/School Dean _____ Date _____ West Lafayette Registrar _____ Date _____
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PURDUE UNIVERSITY
REQUEST FOR ADDITION, EXPIRATION,
OR REVISION OF AN UNDERGRADUATE COURSE
(10000-40000 LEVEL)

Office of the Registrar
 FORM 40 REV. 5/11

DEPARTMENT Agricultural and Biological Engineering

EFFECTIVE SESSION Fall 2017

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

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

PROPOSED:

EXISTING:

Subject Abbreviation _____

Subject Abbreviation ABE

Course Number _____

Course Number 20500

Long Title Computations For Engineering Systems

Short Title Computations Engr Sys

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

TERMS OFFERED

Check All That Apply:

Fall Spring Summer

CAMPUS(ES) INVOLVED

Calumet N. Central
 Cont Ed Tech Statewide
 Ft. Wayne W. Lafayette
 Indianapolis

CREDIT TYPE

COURSE ATTRIBUTES: Check All That Apply

1. Fixed Credit: Cr. Hrs.

2. Variable Credit Range:
 Minimum Cr. Hrs.
 (Check One) To Or
 Maximum Cr. Hrs.

3. Equivalent Credit: Yes No

1. Pass/Not Pass Only

2. Satisfactory/Unsatisfactory Only

3. Repeatable

Maximum Repeatable Credit:

4. Credit by Examination

5. Fees: Coop Lab Rate Request

Include comment to explain fee _____

6. Registration Approval Type
 Department Instructor

7. Variable Title

8. Honors

9. Full Time Privilege

10. Off Campus Experience

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

Cross-Listed Courses

COURSE DESCRIPTION (INCLUDE REQUISITES/RESTRICTIONS):

Development of engineering problem solving and design skills. Use of Excel, Matlab, and MathCad for problem solving, data analysis, numerical modeling, and statistics. Introduction to elementary statics, dynamics, materials, thermodynamics, fluid mechanics, and energy topics.
 (Undergraduate level ENGR 12600 Minimum Grade of C- or Undergraduate level ENGR 12100 Minimum Grade of C- or Undergraduate level ENGR 13200 Minimum Grade of C- or Undergraduate level ENGR 13300 Minimum Grade of C- or Undergraduate level ENGR 14200 Minimum Grade of C- or Undergraduate level ENGR 16200 Minimum Grade of C-) and (Undergraduate level PHYS 17200 Minimum Grade of C- may be taken concurrently) or Undergraduate level ENGR 16200 Minimum Grade of C-)

***COURSE LEARNING OUTCOMES:**

Calumet Department Head _____ Date _____	Calumet School Dean _____ Date _____
Fort Wayne Department Head _____ Date _____	Fort Wayne School Dean _____ Date _____
Indianapolis Department Head _____ Date _____	Indianapolis School Dean _____ Date _____
North Central Faculty Senate Chair _____ Date _____	Vice Chancellor for Academic Affairs _____ Date _____
West Lafayette Department Head _____ Date _____	West Lafayette College/School Dean _____ Date _____

West Lafayette Registrar _____ Date _____

OFFICE OF THE REGISTRAR

PURDUE UNIVERSITY

**REQUEST FOR ADDITION, EXPIRATION,
OR REVISION OF AN UNDERGRADUATE COURSE
(10000-40000 LEVEL)**

Print Form

Office of the Registrar
FORM 40 REV. 5/11

DEPARTMENT Aero & Astro Engineering

EFFECTIVE SESSION Fall 2017

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

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

PROPOSED:

EXISTING:

TERMS OFFERED
Check All That Apply:

Subject Abbreviation _____ Subject Abbreviation AAE
Course Number _____ Course Number 20300
Long Title Aeromechanics I
Short Title _____

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. To Or
Maximum Cr. Hrs.
3. Equivalent Credit: Yes No

COURSE ATTRIBUTES: Check All That Apply

1. Pass/Not Pass Only
2. Satisfactory/Unsatisfactory Only
3. Repeatable
4. Credit by Examination
5. Fees: Coop Lab Rate Request
Include comment to explain fee
6. Registration Approval Type
Department Instructor
7. Variable Title
8. Honors
9. Full Time Privilege
10. Off Campus Experience

Schedule Type	Minutes Per Mtg	Meetings Per Week	Weeks Offered	% of Credit Allocated
Lecture	50	3	15	100
Recitation				
Presentation				
Laboratory				
Lab Prep				
Studio				
Distance				
Clinic				
Experiential				
Research				
Ind. Study				
Pract/Observ				

Cross-Listed Courses

COURSE DESCRIPTION (INCLUDE REQUISITES/RESTRICTIONS):

(Undergraduate level PHYS 17200 Minimum Grade of D- or (Undergraduate level PHYS 16200 Minimum Grade of D- and Undergraduate level PHYS 16300 Minimum Grade of D-) or Undergraduate level ENGR 16200) and (Undergraduate level MA 26100 Minimum Grade of D- [may be taken concurrently] or Undergraduate level MA 26300 Minimum Grade of D- [may be taken concurrently] or Undergraduate level MA 17200 Minimum Grade of D- [may be taken concurrently] or Undergraduate level MA 18200 Minimum Grade of D- [may be taken concurrently] or Undergraduate level MA 27101 Minimum Grade of D- [may be taken concurrently] or Undergraduate level MA 17400 Minimum Grade of D- [may be taken concurrently])

***COURSE LEARNING OUTCOMES:**

1. Compute velocities and accelerations for any type of motion.
2. Compute angular velocities and accelerations of rigid bodies.
3. Model forces and apply Newtons Laws in particle dynamic problems.
4. Model forces and solve general statics of bodies problems

Calumet Department Head _____ Date _____	Calumet School Dean _____ Date _____
Fort Wayne Department Head _____ Date _____	Fort Wayne School Dean _____ Date _____
Indianapolis Department Head _____ Date _____	Indianapolis School Dean _____ Date _____
North Central Faculty Senate Chair _____ Date _____	Vice Chancellor for Academic Affairs _____ Date _____
West Lafayette Department Head _____ Date <u>1/26/17</u>	West Lafayette College/School Dean _____ Date <u>2/6/17</u>
	West Lafayette Registrar _____ Date _____