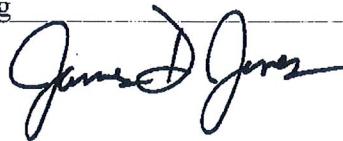


Memorandum

To: The Faculty of the College of Engineering

From: The School of Mechanical Engineering



Date: April 21, 2016

RE: Change to Existing ME 20000 – Thermodynamics I

The Faculty of the School of Mechanical Engineering has approved the following changes to an existing course and now seeks the approval at the college level. The First Year Engineering Program now requires students to earn a grade of a C- or higher in all FYE required courses to successfully complete the FYE program. Thus, we are adjusting the listed pre-requisite for ME 20000 include CHM 11500, CHM 11100 and CHM 11200, as well as ENGR 13200, 13300, and 14200 to earn a minimum grade of C-. Also, since there are now more Math course equivalencies for Multivariable Calculus (MA 26100) we are adjusting the listed math course options to meet the course requisite requirements. Students now have the ability to achieve equivalent chemistry courses which also meet the course requisite, thus those courses (CHM 11100 and CHM 12000) need to be added.

Course: ME 20000- Thermodynamics I

Proposed Requisites:

(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 MA 18200 Minimum Grade of D- [may be taken concurrently] or MA 27100 Minimum Grade of D- [may be taken concurrently] and (Undergraduate level CHM 11500 Minimum Grade of C- or Undergraduate level CHM 12300 Minimum Grade of C-) or CHM 11100 and CHM 11200 Minimum Grade of C- and Undergraduate level ENGR 13200 Minimum Grade of C- [may be taken concurrently] or Undergraduate level ENGR 14200 Minimum Grade of C- or Undergraduate level ENGR 13300 Minimum Grade of C-

Description: First and second laws of thermodynamics, entropy, reversible and irreversible processes, properties of pure substances. Application to engineering problems.

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

ECC Minutes #7 Date 11-29-16
Chairman ECC [Signature]

Office of the Registrar
FORM 40 REV. 5/11

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

Print Form

DEPARTMENT School of Mechanical Engineering

EFFECTIVE SESSION Spring 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 _____
Short Title _____

EXISTING:

Subject Abbreviation ME
Course Number 20000

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 | <input type="checkbox"/> | 6. Registration Approval Type | <input type="checkbox"/> |
| 2. Satisfactory/Unsatisfactory Only | <input type="checkbox"/> | Department | Instructor |
| 3. Repeatable | <input type="checkbox"/> | | |
| Maximum Repeatable Credit: | <input type="text"/> | 7. Variable Title | <input type="checkbox"/> |
| 4. Credit by Examination | <input type="checkbox"/> | 8. Honors | <input type="checkbox"/> |
| 5. Fees: <input type="checkbox"/> Coop <input type="checkbox"/> Lab <input type="checkbox"/> Rate Request | | 9. Full Time Privilege | <input type="checkbox"/> |
| Include comment to explain fee | | 10. Off Campus Experience | <input type="checkbox"/> |

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):

Prerequisites should include the addition of MA 18200, MA 27100, CHM 11100 AND CHM 11200 to be aligned with options available to students. Additionally, minimum grades for CHM 11500, CHM 12300, CHM 11100, CHM 11200, ENGR 13200, ENGR 14200, and ENGR 13300 should be C- due to change in First Year Engineering requirements. See attached memo for additional information.

***COURSE LEARNING OUTCOMES:**

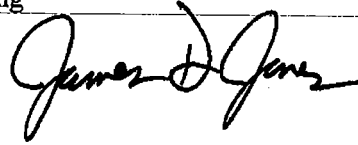
Calumet Department Head _____ Date _____	Calumet School Dean _____ Date _____
Fort Wayne Department Head _____ Date _____	Fort Wayne School Dean _____ Date _____
Indianapolis Department Head _____ Date _____	Indianapolis School Dean _____ Date _____
North Central Faculty Senate Chair _____ Date _____	Vice Chancellor for Academic Affairs _____ Date _____
West Lafayette Department Head <i>Amal Bery</i> _____ Date <i>4/22/16</i>	West Lafayette College/School Dean <i>Michael Y. ...</i> _____ Date <i>11/29/16</i>

West Lafayette Registrar _____ Date _____

Memorandum

To: The Faculty of the College of Engineering

From: The School of Mechanical Engineering



Date: April 21, 2016

RE: **Change to Existing ME 26300** – Introduction to Mechanical Engineering Design, Innovation and Entrepreneurship

The Faculty of the School of Mechanical Engineering has approved the following changes to an existing course and now seeks the approval at the college level. The First Year Engineering Program now requires students to earn a grade of a C- or higher in all FYE required courses to successfully complete the FYE program. Thus, we are adjusting the listed pre-requisite for ME 26300 include CHM 11500, CHM 11100 and CHM 11200, as well as ENGR 13200, 13300, and 14200 to earn a minimum grade of C-. Since the university implemented the University Common Core (UCC) curriculum, all First-Year Engineering students must complete both Written and Oral Communications courses before entering into professional schools, specifically Mechanical Engineering. Thus, we are adjusting the listed requisites to remove the previous specific Written and Oral Communication courses since students now have Written and Oral course options, and those courses must be complete before the student's admission to Mechanical Engineering. The proposal is to remove the specific COM 11400 and ENGL 10600 requirements due to the new UCC curriculum requirement options, and it also proposes to remove the expired ENGR 12600/12100 courses. The proposal also includes the addition of MA 26600. The course will remain restricted to students majoring in Mechanical Engineering.

Course: **ME 26300**- Introduction to Mechanical Engineering Design, Innovation and Entrepreneurship

Proposed Requisites:

(CGT 16300 for a total of 1 conditions)

CGT 16300

Minimum Grade of D-

May be taken concurrently.

and

∴ ME 20000 for a total of 1 conditions ME 20000

Minimum Grade of D-

May not be taken concurrently.

and

ME 27000 or CE 27100 for a total of 1 conditions CE 27100

Minimum Grade of D-

May not be taken concurrently. ME 27000
Minimum Grade of D-
May not be taken concurrently.

or

ENGR 13100 and 13200 or 13300 for a total of 1 conditions (ENGR 13100

Minimum Grade of C-

May not be taken concurrently.)

and

(ENGR 13200

Minimum Grade of C-

May not be taken concurrently.)

or

(ENGR 133)

Minimum Grade of C-

May not be taken concurrently

or

ENGR 14100 and 14200 for a total of 1 conditions (ENGR 14100

Minimum Grade of C-

May not be taken concurrently.)

and

(ENGR 14200

Minimum Grade of C-

May not be taken concurrently.)

and

∴ MA 26200 for a total of 1 conditions MA 26200

Minimum Grade of D-

May be taken concurrently.

Or

MA 26600

Minimum Grade of D-

May be taken concurrently

and

∴ ME 29000 for a total of 1 conditions ME 29000

Minimum Grade of D-

May be taken concurrently.

Description: The product design process. Development of product design specifications using customer inputs, benchmarking, product/market research and patent review. Concept generation and evaluation using brainstorming, functional decomposition, modeling and decision matrices. Detailed product design including assembly, economic analysis, CAD, and bill of materials. Oral and written design reviews. Key skills developed include teamwork, communication, project planning, innovation, design, and entrepreneurship.

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 School of Mechanical Engineering

EFFECTIVE SESSION Spring 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 ME

Fall Spring Summer

Course Number _____

Course Number 26300

CAMPUS(ES) INVOLVED

Long Title _____

Short Title _____

- | | |
|---------------------------------------|--|
| <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

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

COURSE ATTRIBUTES: Check All That Apply

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

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):

Remove the Written and Oral Communication prerequisites due to required completion in the First Year Engineering (FYE program). Remove ENR 12600 and ENGR 12100 prerequisites as those are expired courses no longer offered. Additionally, minimum grades for ENGR 13100, ENGR 13200, ENGR 14100, and ENGR 14200 should be C- due to change in First Year Engineering requirements. See attached memo for additional information. All other prerequisites should remain as is. See attached memo for additional information.

***COURSE LEARNING OUTCOMES:**

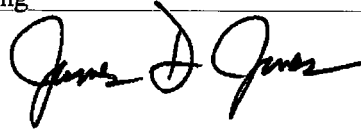
Calumet Department Head _____ Date _____	Calumet School Dean _____ Date _____
Fort Wayne Department Head _____ Date _____	Fort Wayne School Dean _____ Date _____
Indianapolis Department Head _____ Date _____	Indianapolis School Dean _____ Date _____
North Central Faculty Senate Chair _____ Date _____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

West Lafayette Registrar _____ Date _____

Memorandum

To: The Faculty of the College of Engineering

From: The School of Mechanical Engineering



Date: April 21, 2016

RE: **Change to Existing ME 27000- Basic Mechanics I**

The Faculty of the School of Mechanical Engineering has approved the following changes to an existing course and now seeks the approval at the college level. The First Year Engineering Program now requires students to earn a grade of a C- or higher in all FYE required courses to successfully complete the FYE program. Thus, we are adjusting the listed pre-requisite for ME 27000 include PHYS 17200 and MA 16600/16200, as well as ENGR 13200, 13300, and 14200 to earn a minimum grade of C-. Also, since there are now more Math course equivalencies for Multivariable Calculus (MA 26100) we are adjusting the listed math course options to meet the course requisite requirements.

Course: **ME 27000- Basic Mechanics I**

Proposed Requisites:

Undergraduate level PHYS 17200 Minimum Grade of C- and (Undergraduate level MA 16200 Minimum Grade of C- or Undergraduate level MA 16600 Minimum Grade of C- or Undergraduate level MA 18100 Minimum Grade of C-) 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 MA 18200 Minimum Grade of D- [may be taken concurrently] or MA 27100 Minimum Grade of D- [may be taken concurrently] and Undergraduate level ENGR 13200 Minimum Grade of C- [may be taken concurrently] or Undergraduate level ENGR 13300 Minimum Grade of C- [may be taken concurrently] or Undergraduate level ENGR 14200 Minimum Grade of C- [may be taken concurrently]

Description: Vector operations, forces and couples, free body diagrams, equilibrium of a particle and of rigid bodies. Friction. Distributed forces. Centers of gravity and centroids. Applications from structural and machine elements, such as bars, trusses, and friction devices. Kinematics and equations of motion of a particle for rectilinear and curvilinear motion.

Office of the Registrar
FORM 40 REV. 5/11

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

Print Form

DEPARTMENT School of Mechanical Engineering EFFECTIVE SESSION Spring 2017

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

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

PROPOSED: Subject Abbreviation _____ Course Number _____ Long Title _____ Short Title _____

EXISTING: Subject Abbreviation ME _____ Course Number 27000 _____

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. _____ 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

6. Registration Approval Type Department Instructor

7. Variable Title

8. Honors

9. Full Time Privilege

10. Off Campus Experience

Include comment to explain fee

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):
Prerequisites should include the addition of MA 18100, MA 27100, or and MA 26100. Add MA 26600 as a co-requisite. This is to be aligned with options available to students. Additionally, minimum grades for all per-requisite courses should be C- due to change in First Year Engineering requirements. See attached memo for additional information.

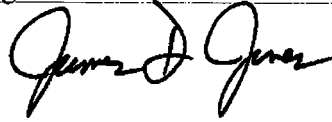
*COURSE LEARNING OUTCOMES:

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 _____

Memorandum

To: The Faculty of the College of Engineering

From: The School of Mechanical Engineering



Date: April 21, 2016

RE: Change to Existing ME 30900 – Fluid Mechanics

The Faculty of the School of Mechanical Engineering has approved the following changes to an existing course and now seeks the approval at the college level. Since the Math Department recently made curriculum changes and more course options available, we are now adjusting the listed math course options to meet the course requisite requirements. We are also removing an expired math course (MA 272).

Course: ME 30900- Fluid Mechanics

Proposed Requisites:

(Course or Test: ME 26300

Minimum Grade of D-

May not be taken concurrently.)

and

(Course or Test: ME 27400

Minimum Grade of D-

May not be taken concurrently.)

and

(Rule: 1.: MA262or265/266or350/360 for a total of 1 conditions)

and

(MA 26200

Minimum Grade of D-

May not be taken concurrently.)

or

MA 26600

Minimum Grade of D-

May not be taken concurrently.)

Description: Continuum, velocity field, fluid statics, manometers, basic conservation laws for systems and control volumes, dimensional analysis. Euler and Bernoulli equations, viscous flows, boundary layers, flow in channels and around submerged bodies, one-dimensional gas dynamics, turbomachinery.

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 School of Mechanical Engineering

EFFECTIVE SESSION Spring 2017

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

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

PROPOSED:

EXISTING:

Subject Abbreviation Subject Abbreviation ME

Course Number Course Number 30900

Long Title

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

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
4. Credit by Examination
5. Fees: Coop Lab Rate Request
6. Registration Approval Type Department Instructor
7. Variable Title
8. Honors
9. Full Time Privilege
10. Off Campus Experience

Table with columns: Schedule Type, Minutes Per Mtg, Meetings Per Week, Weeks Offered, % of Credit Allocated. Rows include Lecture, Recitation, Presentation, Laboratory, Lab Prep, Studio, Distance, Clinic, Experiential, Research, Ind. Study, Pract/Observ.

Cross-Listed Courses

COURSE DESCRIPTION (INCLUDE REQUISITES/RESTRICTIONS):

Prerequisites should include the addition of MA 26500 AND MA 26600 Minimum Grade of D-. Remove MA 27200 as a prerequisite. See attached memo for additional information.

*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