

PURDUE UNIVERSITY
REQUEST FOR ADDITION, DELETION,
OR REVISION OF A COURSE

SCHOOL DOCUMENT NO. 20-02

GRADUATE COUNCIL DOCUMENT NO.

DEPARTMENT Materials Engineering

DATE SUBMITTED 2/19/03

DATE EFFECTIVE Fall 2003

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

PURPOSE

- | | |
|---|---|
| <input type="checkbox"/> 1. Deletion of a course | <input type="checkbox"/> 8. Change in semesters offered |
| <input type="checkbox"/> 2. New course with supporting documents | <input type="checkbox"/> 9. Change in course credit/type |
| <input type="checkbox"/> 3. Add existing course offered at another campus | <input type="checkbox"/> 10. Change in course attributes |
| <input type="checkbox"/> 4. Change in course number at same level | <input type="checkbox"/> 11. Change in instructional hours |
| <input type="checkbox"/> 5. Downgrading of course level | <input checked="" type="checkbox"/> 12. Change in prerequisites |
| <input type="checkbox"/> 6. Upgrading of course level | <input type="checkbox"/> 13. Change in description of course content |
| <input type="checkbox"/> 7. Change in course title | <input type="checkbox"/> 14. Transfer of course from one dept. to another |

EXISTING: Subject Abbreviation <u>MSE</u> Course Number <u>335</u> Proposed Title <u>Materials Characterization Laboratory</u> Variable Title Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Abbreviated Title <u>Mat Character Lab</u> Abbreviated title will be entered by the Office of the Registrar if omitted. (22 CHARACTERS ONLY)	PROPOSED: Subject Abbreviation _____ Course Number _____ Proposed Title _____ Variable Title Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Abbreviated Title _____ Abbreviated title will be entered by the Office of the Registrar if omitted. (22 CHARACTERS ONLY)	SEMESTERS OFFERED Check All That Apply. Summer <input type="checkbox"/> Fall <input checked="" type="checkbox"/> Ag Winter <input type="checkbox"/> Spring <input type="checkbox"/>
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CROSS LISTED COURSES	CREDIT TYPE 1. Fixed Credit: Cr. Hrs. <u>3</u> 2. Variable Credit Range: Minimum Cr. Hrs _____ (Check One) To _____ Or _____ Maximum Cr. Hrs _____ 3. Equivalent Credit: Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> 4. Thesis Credit: Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	COURSE ATTRIBUTES: Check All That Apply. 1. Pass/Not Pass Only <input type="checkbox"/> 2. Repeatable for Credit <input type="checkbox"/> 3. Available for Credit by Examination <input type="checkbox"/> 4. Designator Required <input type="checkbox"/> 5. Special Fees <input type="checkbox"/> 6. Approval Required for Enrollment <input type="checkbox"/> Department _____ Instructor _____
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Instructional Type Primary <u>2</u> Secondary _____ Laboratory <u>3</u> Lab. Prep. _____	Class Hours	FTE	Instructional Type Auto-tutorial _____ Ind. Study _____ Clinic _____ Experiential _____	Class Hours	FTE	Instructional Type Thesis _____ Observation _____ Matis Based _____	Class Hours	FTE	CAMPUS(ES) INVOLVED Calumet _____ Fort Wayne _____ Indianapolis _____ North Central _____ West Lafayette <input checked="" type="checkbox"/> Off Campus _____
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COURSE DESCRIPTION (PREREQUISITES INCLUDED):
Sem. 1. Class 2, lab 3, cr. 3. Prerequisite: MSE 235 or MSE 292

The principles of analytical methods for characterization of materials for structure and composition; optical microscopy, scanning electron microscopy, X-ray spectroscopy and diffraction, atomic absorption, emission spectroscopy, and mass spectrometry. Laboratory experiments in X-ray spectroscopy, X-ray diffraction, optical microscopy, and scanning electron microscopy.

Calumet Undergrad Curriculum Committee _____ Date _____	Calumet Department Head _____ Date _____	Calumet School Dean _____ Date _____
Fort Wayne Department Head _____ Date _____	Fort Wayne School Dean _____ Date _____	Fort Wayne Chancellor <u>Michael Zoltowski</u> #970 Apr. for Faculty <u>3/11/03</u> M.D. Zoltowski, Chair Undergrad Curriculum Committee _____ Date _____
Indianapolis Department Head _____ Date _____	Indianapolis School Dean _____ Date _____	Undergrad Curriculum Committee _____ Date _____
North Central Department Head _____ Date _____	North Central Vice Chancellor _____ Date _____	Date Approved by Graduate Council _____
West Lafayette Department Head <u>2/24/03</u> _____ Date _____	West Lafayette School Dean <u>3/5/03</u> _____ Date _____	Graduate Council Secretary <u>Debra Shute</u> <u>3/19/03</u> _____ Date _____
Graduate Area Committee Convener _____ Date _____	Graduate Dean _____ Date _____	West Lafayette Registrar _____ Date _____

DEPARTMENT Materials Engineering

DATE SUBMITTED 2/19/03

DATE EFFECTIVE Fall 2003

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| <input type="checkbox"/> 4. Change in course number at same level | <input type="checkbox"/> 11. Change in instructional hours |
| <input type="checkbox"/> 5. Downgrading of course level | <input checked="" type="checkbox"/> 12. Change in prerequisites |
| <input type="checkbox"/> 6. Upgrading of course level | <input type="checkbox"/> 13. Change in description of course content |
| <input type="checkbox"/> 7. Change in course title | <input type="checkbox"/> 14. Transfer of course from one dept. to another |

EXISTING:

PROPOSED:

Subject Abbreviation MSE
 Course Number 340
 Proposed Title Transport Phenomena
 Variable Title Yes No
 Abbreviated Title Transport Phenomena
 Abbreviated title will be entered by the Office of the Registrar if omitted. (22 CHARACTERS ONLY)

SEMESTERS OFFERED

Check All That Apply.
 Summer Fall Ag Winter Spring

CROSS LISTED COURSES

CREDIT TYPE

1. Fixed Credit: Cr. Hrs. 3
 2. Variable Credit Range:
 Minimum Cr. Hrs _____ Or _____
 (Check One) To 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. Repeatable for Credit
 3. Available for Credit by Examination
 4. Designator Required
 5. Special Fees
 6. Approval Required for Enrollment
 Department _____
 Instructor _____

Instructional Type	Class Hours	FTE	Instructional Type	Class Hours	FTE	Instructional Type	Class Hours	FTE	CAMPUS(ES) INVOLVED
Primary	3		Auto-tutorial			Thesis			Calumet
Secondary			Ind. Study			Observation			Fort Wayne
Laboratory			Clinic			Matts Based			Indianapolis
Lab. Prep.			Experiential						North Central
									West Lafayette
									Off Campus

COURSE DESCRIPTION (PREREQUISITES INCLUDED):

Sem. 1. Class 3, cr. 3. Prerequisite: MA 266

Mechanism and rates of heat, mass, and momentum transfer. Macroscopic and differential energy, mass, and momentum balances. Application to systems with phase transformations and chemical reaction.

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Indianapolis Department Head	Date	Indianapolis School Dean	Date	Undergrad Curriculum Committee	Date
North Central Department Head	Date	North Central Vice Chancellor	Date	Date Approved by Graduate Council	
West Lafayette Department Head	<u>2/24/02</u> Date	West Lafayette School Dean	<u>3/5/03</u> Date	Graduate Council Secretary <i>Debra Shurt</i> 3/19/03	Date
Graduate Area Committee Convener	Date	Graduate Dean	Date	West Lafayette Registrar	Date

PURDUE UNIVERSITY
REQUEST FOR ADDITION, DELETION,
OR REVISION OF A COURSE

SCHOOL DOCUMENT NO. 20-02

GRADUATE COUNCIL DOCUMENT NO.

DEPARTMENT Materials Engineering

DATE SUBMITTED 2/19/03

DATE EFFECTIVE Spring '03

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

PURPOSE

- | | |
|---|---|
| <input type="checkbox"/> 1. Deletion of a course | <input type="checkbox"/> 8. Change in semesters offered |
| <input type="checkbox"/> 2. New course with supporting documents | <input type="checkbox"/> 9. Change in course credit/type |
| <input type="checkbox"/> 3. Add existing course offered at another campus | <input type="checkbox"/> 10. Change in course attributes |
| <input type="checkbox"/> 4. Change in course number at same level | <input type="checkbox"/> 11. Change in instructional hours |
| <input type="checkbox"/> 5. Downgrading of course level | <input checked="" type="checkbox"/> 12. Change in prerequisites |
| <input type="checkbox"/> 6. Upgrading of course level | <input type="checkbox"/> 13. Change in description of course content |
| <input type="checkbox"/> 7. Change in course title | <input type="checkbox"/> 14. Transfer of course from one dept. to another |

EXISTING:

PROPOSED:

SEMESTERS OFFERED

Subject Abbreviation MSE
Course Number 350

Subject Abbreviation _____
Course Number _____

Check All That Apply.
Summer Fall Ag Winter Spring

Proposed Title Thermodynamics of Materials

Variable Title Yes No

Abbreviated Title Thermodynamics of Mat

Abbreviated title will be entered by the Office of the Registrar if omitted. (22 CHARACTERS ONLY)

CROSS LISTED COURSES

CREDIT TYPE

COURSE ATTRIBUTES: Check All That Apply.

- Fixed Credit: Cr. Hrs. 3
- Variable Credit Range:
Minimum Cr. Hrs _____
(Check One) To _____ Or _____
Maximum Cr. Hrs _____
- Equivalent Credit: Yes No
- Thesis Credit: Yes No

- Pass/Not Pass Only
 - Repeatable for Credit
 - Available for Credit by Examination
 - Designator Required
 - Special Fees
 - Approval Required for Enrollment
- Department _____
Instructor _____

Instructional Type	Class Hours	FTE	Instructional Type	Class Hours	FTE	Instructional Type	Class Hours	FTE	CAMPUS(ES) INVOLVED
Primary	3		Auto-tutorial			Thesis			Calumet
Secondary			Ind. Study			Observation			Fort Wayne
Laboratory			Clinic			Mats Based			Indianapolis
Lab. Prep.			Experiential						North Central
									West Lafayette
									Off Campus

COURSE DESCRIPTION (PREREQUISITES INCLUDED):

Sem. 2. Class 3, cr. 3. Prerequisite: CHM 373 or consent of instructor.

Fundamental laws of thermodynamics and their applications to material systems; criteria for equilibrium; reaction and phase equilibria; properties of solutions; thermodynamic origins of phase diagrams.

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Indianapolis Department Head	Date	Indianapolis School Dean	Date	Undergrad Curriculum Committee	Date
North Central Department Head	Date	North Central Vice Chancellor	Date	Date Approved by Graduate Council	
West Lafayette Department Head <i>A. ...</i> 2/28/02	Date	West Lafayette School Dean <i>L. J. ...</i> 3/5/03	Date	Graduate Council Secretary <i>Debra Sheeb</i> 3/19/03	Date
Graduate Area Committee Convener	Date	Graduate Dean	Date	West Lafayette Registrar	Date

DEPARTMENT Materials Engineering

DATE SUBMITTED 2/19/03

DATE EFFECTIVE Spring '04

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

PURPOSE

- | | |
|--|--|
| 1. Deletion of a course | 8. Change in semesters offered |
| 2. New course with supporting documents | 9. Change in course credit/type |
| 3. Add existing course offered at another campus | 10. Change in course attributes |
| 4. Change in course number at same level | 11. Change in instructional hours |
| 5. Downgrading of course level | 12. Change in prerequisites |
| 6. Upgrading of course level | 13. Change in description of course content |
| 7. Change in course title | 14. Transfer of course from one dept. to another |

EXISTING:

Subject Abbreviation MSE
Course Number 367

PROPOSED:

Subject Abbreviation _____
Course Number _____

SEMESTERS OFFERED

Check All That Apply.

Summer Fall Ag Winter Spring

Proposed Title Materials Processing Laboratory

Variable Title Yes No

Abbreviated Title Materials Process Lab

Abbreviated title will be entered by the Office of the Registrar if omitted. (22 CHARACTERS ONLY)

CROSS LISTED COURSES

CREDIT TYPE

1. Fixed Credit: Cr. Hrs. 3
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. Repeatable for Credit
3. Available for Credit by Examination
4. Designator Required
5. Special Fees
6. Approval Required for Enrollment

Department _____
Instructor _____

Instructional Type

Class Hours

FTE

Instructional Type

Class Hours

FTE

Instructional Type

Class Hours

FTE

CAMPUS(ES) INVOLVED

Primary 2

Secondary _____

Laboratory 3

Lab. Prep. _____

Auto-tutorial _____

Ind. Study _____

Clinic _____

Experiential _____

Thesis _____

Observation _____

Matis Based _____

Calumet

Fort Wayne

Indianapolis

North Central

West Lafayette

Off Campus

COURSE DESCRIPTION (PREREQUISITES INCLUDED):

Sem. 2. Class 2, lab 3, cr. 3. Prerequisite or corequisite: MSE 240 and junior standing.

This laboratory is intended as an intensive experience in processing techniques used for ceramics, metals, and polymers. Sintering of a ceramic, casting and post-processing (work hardening, heat treatment, etc.) of a metal, and preparation and extrusion of a polymer are the suggested processes. The measurements (e.g., powder size, compaction force, temperature, grain size, molecular weight) applicable to the successful processing of the material and the final properties (e.g., hardness, ductility, strength, stiffness) will be emphasized.

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Indianapolis Department Head	Date	Indianapolis School Dean	Date	Undergrad Curriculum Committee	Date
North Central Department Head	Date	North Central Vice Chancellor	Date	Date Approved by Graduate Council	
West Lafayette Department Head	Date	West Lafayette School Dean	Date	Graduate Council Secretary <i>Debra Shurt</i> 3/19/03	Date
Graduate Area Committee Convener	Date	Graduate Dean	Date	West Lafayette Registrar	Date

DEPARTMENT Materials Engineering

DATE SUBMITTED 2/19/03

DATE EFFECTIVE Fall 2003

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

PURPOSE

- | | | | |
|--------------------------|--|-------------------------------------|--|
| <input type="checkbox"/> | 1. Deletion of a course | <input type="checkbox"/> | 8. Change in semesters offered |
| <input type="checkbox"/> | 2. New course with supporting documents | <input type="checkbox"/> | 9. Change in course credit/type |
| <input type="checkbox"/> | 3. Add existing course offered at another campus | <input type="checkbox"/> | 10. Change in course attributes |
| <input type="checkbox"/> | 4. Change in course number at same level | <input type="checkbox"/> | 11. Change in instructional hours |
| <input type="checkbox"/> | 5. Downgrading of course level | <input checked="" type="checkbox"/> | 12. Change in prerequisites |
| <input type="checkbox"/> | 6. Upgrading of course level | <input type="checkbox"/> | 13. Change in description of course content |
| <input type="checkbox"/> | 7. Change in course title | <input type="checkbox"/> | 14. Transfer of course from one dept. to another |

EXISTING:

PROPOSED:

SEMESTERS OFFERED

Subject Abbreviation MSE
Course Number 430

Subject Abbreviation _____
Course Number _____

Check All That Apply.
Summer Fall Ag Winter Spring

Proposed Title Materials Processing and Design I

Variable Title Yes No

Abbreviated Title Mat Process Design I

Abbreviated title will be entered by the Office of the Registrar if omitted. (22 CHARACTERS ONLY)

CROSS LISTED COURSES

CREDIT TYPE

- Fixed Credit: Cr. Hrs. 3
- Variable Credit Range:
Minimum Cr. Hrs _____
(Check One) To _____ Or _____
Maximum Cr. Hrs _____
- Equivalent Credit: Yes No
- Thesis Credit: Yes No

COURSE ATTRIBUTES: Check All That Apply.

- Pass/Not Pass Only
- Repeatable for Credit
- Available for Credit by Examination
- Designator Required
- Special Fees
- Approval Required for Enrollment
Department _____
Instructor _____

Instructional Type	Class Hours	FTE	Instructional Type	Class Hours	FTE	Instructional Type	Class Hours	FTE
Primary	2		Auto-tutorial			Thesis		
Secondary			Ind. Study			Observation		
Laboratory	3		Clinic			Matts Based		
Lab. Prep.			Experiential					

CAMPUS(ES) INVOLVED
Calumet
Fort Wayne
Indianapolis
North Central
West Lafayette
Off Campus

COURSE DESCRIPTION (PREREQUISITES INCLUDED):

Sem. 1. Class 2, lab 3, cr. 3. Prerequisites: MSE 350, MSE 367, and MSE 382, or consent of instructor.

Experience in the initiation and execution of a specific materials project or study involving research, processing, and design; a written proposal on the project prepared by the student under the supervision of an individual faculty member; oral progress report at the end of the semester.

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Indianapolis Department Head	Date	Indianapolis School Dean	Date	Undergrad Curriculum Committee	Date
North Central Department Head	Date	North Central Vice Chancellor	Date	Date Approved by Graduate Council	
West Lafayette Department Head <i>Neeraj</i>	Date <u>2/28/02</u>	West Lafayette School Dean <i>L.D. Huggins</i>	Date <u>3/5/03</u>	Graduate Council Secretary <i>Debra Pheasant</i>	Date <u>3/19/03</u>
Graduate Area Committee Convener	Date	Graduate Dean	Date	West Lafayette Registrar	Date

DEPARTMENT Materials Engineering

DATE SUBMITTED 2/19/03

DATE EFFECTIVE Spring '04

INSTRUCTIONS: Please check the items below which describe the purpose of this request.									
PURPOSE									
1. Deletion of a course 2. New course with supporting documents 3. Add existing course offered at another campus 4. Change in course number at same level 5. Downgrading of course level 6. Upgrading of course level 7. Change in course title	8. Change in semesters offered 9. Change in course credit/type 10. Change in course attributes 11. Change in instructional hours 12. Change in prerequisites 13. Change in description of course content 14. Transfer of course from one dept. to another								
EXISTING: Subject Abbreviation <u>MSE</u> Course Number <u>440</u>			PROPOSED: Subject Abbreviation _____ Course Number _____			SEMESTERS OFFERED Check All That Apply. Summer <input type="checkbox"/> Fall <input type="checkbox"/> Ag Winter <input type="checkbox"/> Spring <input checked="" type="checkbox"/>			
Proposed Title <u>Materials Processing and Design II</u> Variable Title Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>									
Abbreviated Title <u>Mat Process Design II</u> Abbreviated title will be entered by the Office of the Registrar if omitted. (22 CHARACTERS ONLY)									
CROSS LISTED COURSES		CREDIT TYPE 1. Fixed Credit: Cr. Hrs. <u>3</u> 2. Variable Credit Range: Minimum Cr. Hrs _____ Or _____ (Check One) To Maximum Cr. Hrs. _____ 3. Equivalent Credit: Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> 4. Thesis Credit: Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>			COURSE ATTRIBUTES: Check All That Apply. 1. Pass/Not Pass Only <input type="checkbox"/> 2. Repeatable for Credit <input type="checkbox"/> 3. Available for Credit by Examination <input type="checkbox"/> 4. Designator Required <input type="checkbox"/> 5. Special Fees <input type="checkbox"/> 6. Approval Required for Enrollment <input type="checkbox"/> Department _____ Instructor _____				
Instructional Type Primary Secondary Laboratory Lab. Prep.	Class Hours <u>1</u> <u>6</u>	FTE	Instructional Type Auto-tutorial Ind. Study Clinic Experiential	Class Hours	FTE	Instructional Type Thesis Observation Mats Based	Class Hours	FTE	CAMPUS(ES) INVOLVED Calumet <input type="checkbox"/> Fort Wayne <input type="checkbox"/> Indianapolis <input type="checkbox"/> North Central <input type="checkbox"/> West Lafayette <input checked="" type="checkbox"/> Off Campus <input type="checkbox"/>
COURSE DESCRIPTION (PREREQUISITES INCLUDED): Sem. 2. Class 1, lab 6, cr. 3. Prerequisite: MSE 335, MSE 340, MSE 370 and MSE 430, or consent of instructor. Continuation and completion of the materials project or study initiated in MSE 430 and presentation of a written dissertation on the results and conclusions. Competence in technical writing is emphasized in the preparation of the dissertation.									
Calumet Undergrad Curriculum Committee _____ Date _____			Calumet Department Head _____ Date _____			Calumet School Dean _____ Date _____			
Fort Wayne Department Head _____ Date _____			Fort Wayne School Dean _____ Date _____			Fort Wayne Chancellor <u>Michael Zoltowski</u> Date _____ Apr. for Faculty #970 M.D. Zoltowski, Chair 3/11/03			
Indianapolis Department Head _____ Date _____			Indianapolis School Dean _____ Date _____			Undergrad Curriculum Committee _____ Date _____			
North Central Department Head _____ Date _____			North Central Vice Chancellor _____ Date _____			Date Approved by Graduate Council _____			
West Lafayette Department Head <u>Alexandra</u> <u>2/28/03</u> Date _____			West Lafayette School Dean <u>L. J. Huggins</u> <u>3/5/03</u> Date _____			Graduate Council Secretary <u>Debra Sheets</u> <u>3/19/03</u> Date _____			
Graduate Area Committee Convener _____ Date _____			Graduate Dean _____ Date _____			West Lafayette Registrar _____ Date _____			