Office of the Registrar
FORM 40 REV. 2/99

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

SCHOOL DOCUMENT NO. 34-01
GRADUATE COUNCIL DOCUMENT NO. 02-17a

DEPARTMENT Materials Engineering DATE SUBMITTED 2/28/02 DATE EFFECTIVE Spring 2004

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:	PROPOSED:
Subject Abbreviation	Subject Abbreviation MSE
Course Number	Course Number 505

Proposed Title: Modeling and Simulation of Materials Processing
Variable Title: Yes [ ] No [✓]

Abbreviated Title: Modl & Siml Matls Proc
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 (Check One) To [ ] Or [ ] Maximum Cr. Hrs.
3. Equivalent Credit: Yes [ ] No [X]
4. Thesis Credit: Yes [ ] No [X]

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
Primary	3		Auto-tutorial			Thesis		
Secondary			Ind. Study			Observation		
Laboratory			Clinic			Matls Based		
Lab. Prep.			Experiential					

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

COURSE DESCRIPTION (PREREQUISITES INCLUDED):

Sem.2, Class 3, Cr.3.(Offered in Alternate Years) Prerequisites: MSE 340 or ME 315 or graduate standing. Modeling of various materials processes using finite volume techniques, with an introduction to finite difference and finite element methods. Simulation of microstructural evolution using cellular automata. Links between microscopic and macroscopic modeling. Approximate modeling, uncertainty analysis, and sensitivity analysis as aids to numerical simulation. Limitations on numerical modeling in practical problems. Project work drawn from current problems in materials processing.

Professor Krane.

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 Apr.for Faculty C.D.Sutton,Chair	Date #960 3/1/02
Indianapolis Department Head	Date	Indianapolis School Dean	Date	Undergrad Curriculum Committee	Date
North Central Department Head	Date	North Central Vice Chancellor	Date	APPROVED 04/18/02 Date Approved by Graduate Council	
West Lafayette Department Head	3.1.2 Date	West Lafayette School Dean	1 Mar 02 Date	Graduate Council Secretary	5/10/02 Date
Graduate Area Committee Convener	4/16/02 Date	Graduate Dean	Date	West Lafayette Registrar	Debra Sheets 6/3/02 Date

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