

DEPARTMENT School of Nuclear Engineering

DATE SUBMITTED 12/06/00

DATE EFFECTIVE Spring 2002
01-01-2001

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 checked="" 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 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 _____ Subject Abbreviation NUCL
Course Number _____ Course Number 511

Check All That Apply.
Summer Fall Ag Winter Spring

Proposed Title Reactor Theory and Kinetics

Variable Title Yes No

Abbreviated Title Reactor Thy & Kinetic

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
Primary	<u>3</u>		Auto-tutorial			Thesis		
Secondary			Ind. Study			Observation		
Laboratory			Clinic			Mats 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. Prerequisite: NUCL 510.
Advanced methodologies for neutron flux calculation, nodal methods, introduction to transport theory, transport correction, multigroup theory, introduction to the generation of group constants. Reactor kinetics, perturbation theory, adjoint fluxes, reactivity calculation from perturbation theory, reactivity coefficients due to Doppler effect, temperature and density changes, void coefficient, energy and power coefficients. Microkinetics, theory of reactivity measurements, approximate methods: prompt jump approximation, prompt kinetics, Transients with feedback, safety implications, spatial kinetics.

Professor Downar. and and and

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 C.D. Sutton #944 Date _____
Appr. for Faculty C.D. Sutton, Chair 2/14/01

Indianapolis Department Head _____ Date _____ Indianapolis School Dean _____ Date _____ Undergrad Curriculum Committee _____ Date _____

APPROVED 4/19/01

North Central Department Head _____ Date _____ North Central Vice Chancellor _____ Date _____ Date Approved by Graduate Council _____

Dr. Bennett 1-25-01 _____ Date _____ L.D. Higgins 26 Feb 01 _____ Date _____ Marilyn D. Heist 5/8/01 _____ Date _____
West Lafayette Department Head _____ Date _____ West Lafayette School Dean _____ Date _____ Graduate Council Secretary _____ Date _____

Kathleen C. Howell 4/19/01 _____ Date _____ Debra Sheets 5/14/01 _____ Date _____
Graduate Area Committee Convener _____ Date _____ Graduate Dean _____ Date _____ West Lafayette Registrar _____ Date _____