Office of the Registrar
FORM 40 REV. 12/03

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

to Marilyn + Smith

EFD 2-03

DEPARTMENT Electrical and Computer Engineering EFFECTIVE SESSION Fall 2004

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
- [ ] 8. Change in instructional hours
- [ ] 9. Change in course description
- [ ] 10. Change in course requisites
- [ ] 11. Change in semesters offered

PROPOSED:
Subject Abbreviation ECE
Course Number 517

EXISTING:
Subject Abbreviation
Course Number

Long Title Visulaization Techniques

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

TERMS OFFERED
Check All That Apply:
Summer [ ] Fall [✓] Spring [ ]

CAMPUS(ES) INVOLVED
Calumet [ ] Fort Wayne [ ]
Indianapolis [ ] N. Central [ ]
W.Lafayette [✓] Cont Ed [ ]
Tech Statewide [ ]

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. Satisfactory/Unsatisfactory Only
3. Repeatable
Maximum repeatable credit:
4. Credit by Examination
5. Designator Required
6. Special Fees

7. Registration Approval Type
Department [ ] Instructor
8. Variable Title
9. Remedial
10. Honors
11. Full Time Privilege
12. Off Campus Experience

Instructional Type	Minutes Per Mtg	Meetings Per Week	Weeks Offered	% of Credit Allocated	Delivery Method (Asyn. Or Syn.)	Delivery Medium(Audio, Internet, Live, Text-Based, Video)
Lecture	150	2	16	100	Syn	Live
Recitation						
Presentation						
Laboratory						
Lab Prep						
Studio						
Distance						
Clinic						
Experiential						
Research						
Ind. Study						
Pract/Observ						

COURSE DESCRIPTION (INCLUDE REQUISITES):

Prerequisites: ECE 368 and ECE 369.

Topics in and algorithms for visualization: scientific visualization, medical visualization, information visualization, and volume rendering techniques. Fundamental algorithms, advanced techniques, design criteria, and application specific issues will be explored.

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	Date
Indianapolis Department Head	Date	Indianapolis School Dean	Date	Undergrad Curriculum Committee	Date 9/3/04
North Central Department Head	Date	North Central Chancellor	Date	Date Approved by Graduate Council	
West Lafayette Department Head	Date 08/31/04	West Lafayette School Dean	Date 9/1/04	Graduate Council Secretary	Date
Graduate Area Committee Convener	Date	Graduate Dean	Date	West Lafayette Registrar	Date

OFFICE OF THE REGISTRAR

TO: The Engineering Faculty
FROM: The Faculty of the School of Electrical and Computer Engineering
RE: New Dual-Level Course

The faculty of the School of Electrical and Computer Engineering has approved the following new course. This action is now submitted to the Engineering Faculty with a recommendation for approval.

ECE 517 **Visualization Techniques**
Sem. 1. Class 3, cr. 3. (Offered in alternate years.)
Prerequisites: ECE 368 and ECE 369.

Topics in and algorithms for visualization: scientific visualization, medical visualization, information visualization, and volume rendering techniques. Fundamental algorithms, advanced techniques, design criteria, and application specific issues will be explored.

Reason:

Visualization has become a fundamental tool for engineering and science. This course will prepare computer engineering students, as well as engineering and science students to effectively use, evaluate, design, and develop visualizations and visualization software. Computer graphics and visualization are important, fundamental components of modern computer engineering. Therefore, we need this course to educate our students on the basic algorithms, techniques, and tools of this field. This course was offered in Fall 2001 and Fall 2002 with 13 and 18 students, respectively.

Mark J. T. Smith
Professor and Head

APPROVED FOR THE FACULTY
OF THE SCHOOLS OF ENGINEERING
BY THE COMMITTEE ON
FACULTY RELATIONS

CFR Minutes 991

Date 5-7-04

Chairman CFR Robert E Thompson

Supporting Documentation:

1. Level: Dual Level

2. Course Instructor: David S. Ebert

3. Course Outline:

	Topics	*Lectures*
1.	Introduction to visualization and course material	1
2.	Fundamental graphics techniques and capabilities	2
3.	Data characteristics and scalar techniques	3
4.	Volume visualization techniques	6
5.	Fundamentals of perception	3
6.	Visualization design principles	3
7.	Flow visualization	6
8.	Review of the latest visualization research	3
9.	Medical visualization	6
10.	Information visualization techniques and applications	6
11.	Advanced display techniques and virtual reality	3
12.	Future trends and project results	2
	Total	44

4. Text: The Visualization Toolkit, 2nd Edition, W. Schroeder, M. Martin, and W. Lorenson, Prentice Hall Computer Books, 1997. ISBN 0139546944.