Office of the Registrar
FORM 40 REV. 5/11

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

DEPARTMENT: ECE EFFECTIVE SESSION: 201620

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	ECE	Subject Abbreviation	ECE
Course Number	30413	Course Number	41300
Long Title	Introduction to Optics Laboratory		
Short Title			

Abbreviated title will be entered by the Office of the Registrar if omitted. (30 CHARACTERS ONLY)

TERMS OFFERED (Check All That Apply): ☐ Summer ☐ Fall ☑ Spring

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 ☐
   Maximum Repeatable Credit: ☐
4. Credit by Examination ☐
5. Fees ☐Coop ☐Lab ☐Rate Request
   Include comment to explain fee
6. Registration Approval Type
   Department ☐ Instructor ☐
7. Variable Title ☐
8. Honors ☐
9. Full Time Privilege ☐
10. Off Campus Experience ☐

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):

This laboratory course is designed around three goals. First, the student should find confirmation and reinforcement of topics covered in ECE 30412. Second, the student should be able to apply optical principles to the solution of problems, and to be able to define limitations to these applications. Third, the student should acquire "breadboarding" skills, i.e. be able to build an optical instrument by assembling a set of optical components. This course comprises a set of laboratory experiments on geometrical optics: Lens, prism, Physical optics: Polarizers, gratings, interferometers, diffraction elements, Fourier optics: Optical Fourier transform, spatial filtering, and holography. There is a final project where students can design a practical optical instrument based on their knowledge from the lab.• Co-requisites are ECE 31100, ECE 30100, and ECE 30412 [all may be taken concurrently].

*COURSE LEARNING OUTCOMES

i) An ability to design, construct, and test a simple optical system by assembling a set of optical components. [c]
ii) An ability to test the operation of simple interferometers. [b]
iii) An ability to make holograms using lab equipment. [b]
iv) An ability to design practical optical system (e.g.: barcode scanner, laser microphone, etc.) and analyze its performance. [c]

	Date		Date
Calumet Department Head		Calumet School Dean	
Fort Wayne Department Head		Fort Wayne School Dean	
Indianapolis Department Head		Indianapolis School Dean	
North Central Faculty Senate Chair		Vice Chancellor for Academic Affairs	
West Lafayette Department Head	3/7/16	West Lafayette College/School Dean	3/7/16
		West Lafayette Registrar	

OFFICE OF THE REGISTRAR

To: The Faculty of the College of Engineering

From: The Faculty of the School of Electrical and Computer Engineering

RE: Changes to ECE 41300

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

FROM: **ECE 41300 Introduction to Optics Laboratory**
Sem. 1. Lab 3, Credits 1
Requisites: Undergraduate level ECE 30100 Minimum Grade of D- and Undergraduate level ECE 20800 Minimum Grade of D- and Undergraduate level ECE 31100 Minimum Grade of D- and Undergraduate level ECE 41200 Minimum Grade of D- [may be taken concurrently]
Course Description: A set of laboratory experiments dealing with fundamentals and applications of geometrical optics, polarization optics, wave optics, and Fourier optics.

TO: **ECE 30413 Introduction to Optics Laboratory**
Sem. 2. Lab 3, Credits 1.
Requisites: ECE 31100 and ECE 30100 and ECE 30412 [all may be taken concurrently], ECE 208
Course Description: A set of laboratory experiments dealing with fundamentals and applications of geometrical optics, polarization optics, wave optics, and Fourier optics.

REASON: These changes are intended to accompany similar changes in ECE 41200, improving on the progression of courses from the 200 level to 300 & 400 level courses, for students who wish to focus their studies more precisely in the optics area.

For V. Ragu Balakrishnan, Head
School of Electrical and Computer Engineering

Approved for the faculty of the Schools of Engineering by the Engineering Curriculum Committee
ECC Minutes 14 Date 3-1-16
Chairman ECC