ECE 19000

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

Office of the Registrar
FORM 40 REV. 5/11

Print Form

201520

DEPARTMENT ECE   EFFECTIVE SESSION Spring 2015

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

☐	1. New course with supporting documents	☐	7.	Change in course attributes (department head signature only)
☐	2. Add existing course offered at another campus	☐	8.	Change in instructional hours
☐	3. Expiration of a course	☐	9.	Change in course description
☐	4. Change in course number	☒	10.	Change in course requisites
☐	5. Change in course title	☐	11.	Change in semesters offered (department head signature only)
☐	6. Change in course credit/type	☐	12.	Transfer from one department to another

PROPOSED:

Subject Abbreviation _____

Course Number _____

Long Title *Introduction To Electrical And Computer Engineering*

Short Title *Introduction To ECE*

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

EXISTING:

Subject Abbreviation ECE

Course Number 19000

TERMS OFFERED
Check All That Apply:
☐ Fall ☒ Spring ☐ Summer

CAMPUS(ES) INVOLVED
☐ Calumet ☐ N. Central
☐ Cont Ed ☐ Tech Statewide
☐ Ft. Wayne ☒ W. Lafayette
☐ Indianapolis

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
_____
_____
_____
_____
_____

RECEIVED

OCT 17 2014

OFFICE OF THE REGISTRAR

COURSE DESCRIPTION (INCLUDE REQUISITES/RESTRICTIONS):
See Attachment

*COURSE LEARNING OUTCOMES:
See Attachment

Calumet Department Head	Date	Calumet School Dean	Date
Fort Wayne Department Head	Date	Fort Wayne School Dean	Date
Indianapolis Department Head	Date	Indianapolis School Dean	Date
North Central Faculty Senate Chair	Date	Vice Chancellor for Academic Affairs	Date
West Lafayette Department Head 8/21/14	Date	West Lafayette College/School Dean 10/6/14	Date	West Lafayette Registrar 11/7/14	Date

OFFICE OF THE REGISTRAR

10/22/14

TO: The Faculty of the College of Engineering

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

RE: Change to Requisites for ECE 19000, Introduction to Electrical and Computer Engineering.

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

From: ECE 19000 Introduction to Electrical and Computer Engineering
Sem. Spring; Cr. 1; Lecture 1.
Prerequisites:
Restrictions: Must be enrolled in one of the following: First Year Engineering
Description: This course is intended to provide an introduction to electrical and computer engineering for students in their freshman year. A goal is to provide some historical background of the respective sub-areas within ECE, a description of analytical tools that will be developed throughout their curriculum, the motivation for the tools, and to inform students of elective courses in ECE.
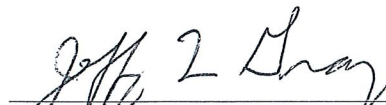
To: ECE 19000 Introduction to Electrical and Computer Engineering
Sem. Spring; Cr. 1; Lecture 1.
Prerequisites: Undergraduate Level MA 16200 minimum grade D- [may be taken concurrently] or Undergraduate Level MA 16600 Minimum Grade of D- [may be taken concurrently] or Undergraduate Level MA 17300 Minimum Grade of D- [may be taken concurrently] or Undergraduate Level MA 18100 Minimum Grade of D- [may be taken concurrently]
Restrictions: Must be enrolled in one of the following: First Year Engineering
Description: This course is intended to provide an introduction to electrical and computer engineering for students in their freshman year. A goal is to provide some historical background of the respective sub-areas within ECE, a description of analytical tools that will be developed throughout their curriculum, the motivation for the tools, and to inform students of elective courses in ECE.

Reason: This course was approved by the ECE Curriculum Committee on September 13, 2007. The EFD 20-06 subsequently failed to include the requisites, and this EFD is to correct the oversight. Concurrent registration in Calculus II is necessary for understanding the course material.

_____
on behalf of V. Balakrishnan, Head
School of Electrical and Computer Engineering

APPROVED FOR THE FACULTY
OF THE SCHOOLS OF ENGINEERING
BY THE ENGINEERING
CURRICULUM COMMITTEE

ECC Minutes _____ 10/10/14

Date _____ 10/10/14

Chairman ECC _____

School of Electrical and Computer Engineering

Course Requisites

Undergraduate Level MA 16200 minimum grade D- [may be taken concurrently] or
Undergraduate Level MA 16600 Minimum grade of D- [may be taken concurrently]
Or Undergraduate Level MA 17300 Minimum grade of D- [may be taken concurrently] or
Undergraduate Level MA 18100 Minimum grade of D- [may be taken concurrently]

Course Learning Outcomes:

i.   Knowledge of respective areas of electrical and computer engineering.

ii.   Knowledge of the historical milestones in electrical and computer engineering.

iii.   Knowledge of several key concepts, including charge and balance moving charge create force, and the basics of electric fields, magnetic fields, energy, efficiency.

iv.   Knowledge of the development and use of traveling electromagnetic waves for communication. Consideration of system using frequency domain..

iv.   Knowledge of semiconductor devices (diodes and transistors).

v.   Knowledge of digital systems, including logic devices and microprocessors.

vi.   Knowledge of purpose of control systems, feedback, and linearity.