PURDUE UNIVERSITY

Office of the Registrar
FORM 40 REV. 11/09

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

Print Form

EFD 27-10

DEPARTMENT School of Electrical and Computer Engineering (EFD 27-10)   EFFECTIVE SESSION Fall 2010

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 Linear Circuit Analysis II

Short Title Linear Circuit Analysis II

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

EXISTING:

Subject Abbreviation ECE

Course Number 20200

TERMS OFFERED
Check All That Apply:

☐ Summer   ☐ Fall   ☐ Spring

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. Special Fees ☐

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):

Prerequisites: ECE 20100 Minimum Grade of C and (MA 26200 [may be taken concurrently] or MA 26600 [may be taken concurrently] or MA 36600 [may be taken concurrently])

*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 Department Head	Date	North Central Chancellor	Date
West Lafayette Department Head _[signature]_ 3/31/10	Date	West Lafayette College/School Dean _[signature]_ 5/24/10	Date West Lafayette Registrar _[signature]_	Date

OFFICE OF THE REGISTRAR

_7/29/10_

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PROPOSED:

Subject Abbreviation _____

Course Number _____

Long Title Linear Circuit Analysis II

Short Title Linear Circuit Analysis II

EXISTING:

Subject Abbreviation ECE

Course Number 20200

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   ☐ 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. Special Fees ☐

6. Registration Approval Type
   Department ☐   Instructor ☐
7. Variable Title ☐
8. Honors ☐
9. Full Time Privilege ☐
10. Off Campus Experience ☐

ScheduleType	Minutes Per Mtg	Meetings Per Week	Weeks Offered	% of Credit Allocated
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Recitation				
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Lab Prep				
Studio				
Distance				
Clinic				
Experiential				
Research				
Ind. Study				
Pract/Observ				

Cross-Listed Courses
_____
_____
_____
_____
_____
_____

COURSE DESCRIPTION (INCLUDE REQUISITES/RESTRICTIONS):

Prerequisites: ECE 20100 Minimum Grade of C and (MA 26200 [may be taken concurrently] or MA 26600 [may be taken concurrently] or MA 36600 [may be taken concurrently])

*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 Department Head	Date	North Central Chancellor	Date
West Lafayette Department Head	Date 3/31/10	West Lafayette College/School Dean	Date
		West Lafayette Registrar	Date

OFFICE OF THE REGISTRAR
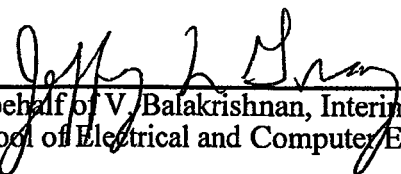
TO: The Faculty of the College of Engineering

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

RE: Change to Existing Undergraduate Course: ECE 20200, Linear Circuit Analysis
II, change in requisites.

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 20200 Linear Circuit Analysis II
Sem. Fall, Spring, Summer; Cr. 3; Lecture 3.
Prerequisites: ECE 20100 and (MA 26200 [may be taken concurrently] or MA
26600 [may be taken concurrently] or MA 36600 [may be taken concurrently])
Restrictions: Must be enrolled in one of the following: School of Electrical &
Computer Engineering, School of Interdisciplinary Engineering
Description: Continuation of ECE 20100. Use of Laplace Transform techniques to
analyze linear circuits with and without initial conditions. Characterization of circuits
based upon impedance, admittance, and transfer function parameters. Determination
of frequency response via analysis of poles and zeros in the complex plane.
Relationship between the transfer function and the impulse response of a circuit. Use
of continuous time convolution to determine time domain responses. Properties and
practical uses of resonant circuits and transformers. Input - output characterization of
a circuit as a two-port. Low and high-pass filter design.

To: ECE 20200 Linear Circuit Analysis II
Sem. Fall, Spring, Summer; Cr. 3; Lecture 3.
Prerequisites: ECE 20100 Minimum Grade of C and (MA 26200 [may be taken
concurrently] or MA 26600 [may be taken concurrently] or MA 36600 [may be taken
concurrently])
Restrictions: Must be enrolled in one of the following: School of Electrical &
Computer Engineering, School of Interdisciplinary Engineering
Description: Continuation of ECE 20100. Use of Laplace Transform techniques to
analyze linear circuits with and without initial conditions. Characterization of circuits
based upon impedance, admittance, and transfer function parameters. Determination
of frequency response via analysis of poles and zeros in the complex plane.
Relationship between the transfer function and the impulse response of a circuit. Use
of continuous time convolution to determine time domain responses. Properties and
practical uses of resonant circuits and transformers. Input - output characterization of
a circuit as a two-port. Low and high-pass filter design.

Reason: This course is part of the Core Curriculum for the BSEE and BSCmpE degrees. Subsets of Core Curriculum courses serve as prerequisites for most upper division ECE electives. In addition, a degree requirement for all ECE students is to achieve a GPA in all major-area (ECE) courses of at least a 2.0. Therefore, in order to ensure that ECE students are as well prepared as possible for upper division ECE courses, as well as to facilitate their achievement of the minimum major-area GPA of 2.0, a minimum grade requirement in the key ECE prerequisite course is being proposed.

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

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

ECC Minutes _____#34_____

Date _____4/20/10_____

Chairman ECC _____R. Cipra_____

School of Electrical and Computer Engineering (EFD 27-10)

Course Learning Outcomes:

i.   an ability to compute impedances and admittances of components and circuits.

ii.   an ability to compute responses of linear circuits with and without initial conditions via one-sided Laplace transform techniques.

iii.   an ability to compute responses to linear circuits using transfer function and convolution techniques.

iv.   an ability to analyze and compute responses of linear circuits containing mutually coupled inductors and ideal transformers in the s-domain.

v.   an ability to analyze basic two port circuits using the various types of two port parameters and be able to construct such parameters from a given circuit.

vi.   an ability to analyze and design basic LP, BP, HP and resonant circuits in the s-domain.