Office of the Registrar
FORM 40 REV. 11/09

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

Print Form

EFD 31-10

DEPARTMENT School of Electrical and Computer Engineering (EFD 31-10) EFFECTIVE SESSION Fall 2010

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
- [x] 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	Subject Abbreviation ECE
Course Number	Course Number 30100
Long Title Signals and Systems	
Short Title Signals and Systems	

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 [x] 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
Lecture				
ritation				
sentation				
Laboratory				
Lab Prep				
Studio				
Distance				
Clinic				
Experiential				
Research				
Ind. Study				
Pract/Observ				

Cross-Listed Courses

COURSE DESCRIPTION (INCLUDE REQUISITES/RESTRICTIONS):
Prerequisites: (ECE 20200 Minimum Grade of C or BME 30500) and (MA 26200 or MA 36600 or MA 26600)

*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
Central Department Head	Date	North Central Chancellor	Date
West Lafayette Department Head 3/31/10	Date	West Lafayette College/School Dean 5/24/2010	Date
West Lafayette Registrar 7/9/10	Date		

OFFICE OF THE REGISTRAR

7/9/10

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- [ ] Calumet
- [ ] Cont Ed
- [ ] Ft. Wayne
- [ ] Indianapolis
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- [x] W. Lafayette

CREDIT TYPE
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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
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- [ ] 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
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- [ ] 9. Full Time Privilege
- [ ] 10. Off Campus Experience

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Recitation				
Presentation				
Laboratory				
Lab Prep				
Studio				
Distance				
Clinic				
Experiential				
Research				
Ind. Study				
Pract/Observ				

Cross-Listed Courses

COURSE DESCRIPTION (INCLUDE REQUISITES/RESTRICTIONS):
Prerequisites: (ECE 20200 Minimum Grade of C or BME 30500) and (MA 26200 or MA 36600 or MA 26600)

*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 3/31/10	Date	West Lafayette College/School Dean 5/24/2010	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 30100, Signals and Systems, 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 30100 Signals and Systems
Sem. Fall, Spring; Cr. 3; Lecture 3.
Prerequisites: ECE 20200 or BME 30500 and (MA 26200 or MA 36600 or MA 26600)
Restrictions: Must be enrolled in one of the following: School of Electrical & Computer Engineering, School of Interdisciplinary Engineering, and School of Biomedical Engineering.
Description: Classification, analysis and design of systems in both the time- and frequency-domains. Continuous-time linear systems: Fourier Series, Fourier Transform, bilateral Laplace Transform. Discrete-time linear systems: difference equations, Discrete-Time Fourier Transform, bilateral Z-Transform. Sampling, quantization, and discrete-time processing of continuous-time signals. Discrete-time nonlinear systems: median-type filters, threshold decomposition. System design examples such as the compact disc player and AM radio.

To: ECE 30100 Signals and Systems
Sem. Fall, Spring; Cr. 3; Lecture 3.
Prerequisites: (ECE 20200 Minimum Grade of C or BME 30500) and (MA 26200 or MA 36600 or MA 26600)
Restrictions: Must be enrolled in one of the following: School of Electrical & Computer Engineering, School of Interdisciplinary Engineering, School of Biomedical Engineering.
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APPROVED FOR THE FACULTY
OF THE SCHOOLS OF ENGINEERING
BY THE ENGINEERING
CURRICULUM COMMITTEE

ECC Minutes #24

Date 4/20/10

Chairman ECC R. Cipra

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

School of Electrical and Computer Engineering (EFD 31-10)

Course Learning Outcomes:

i. an ability to classify signals (e.g. periodic, even) and systems (e.g. causal, linear) and an understanding of the difference between discrete and continuous time signals and systems.
ii. an ability to determine the the impulse response of a differential or difference equation.
iii. an ability to determine the response of linear systems to any input signal by convolution in the time domain.
iv. an understanding of the definitions and basic properties (e.g. time-shift, modulation, Parseval's Theorem) of Fourier series, Fourier transforms, bilateral Laplace transforms, Z transforms, and discrete time Fourier transforms and an ability to compute the transforms and inverse transforms of basic examples using methods such as partial fraction expansions.
v. an ability to determine the response of linear systems to any input signal by transformation to the frequency domain, multiplication, and inverse transformation to the time domain. an ability to apply the Sampling theorem, reconstruction, aliasing, and Nyquist's theorem to represent continuous-time signals in discrete time so that they can be processed by digital computers.