UNIVERSITY FACULTY SENATE FORMS

Academic Program Approval

This form is a routing document for the approval of new and revised academic programs. Proposing department should complete this form. For more information, call the Faculty Senate Office at 831-2921.

Submitted by: Dr. Charles Boncelet phone number: 831-8008

Department: Electrical & Computer Engineering email address: Boncelet@ee.udel.edu

Action: Revise major – add to list of foundation electives

(Example: add major/minor/concentration, delete major/minor/concentration, revise major/minor/concentration, academic unit name change, request for permanent status, policy change, etc.)

Effective term 13F (use format 04F, 05W)

Current degree: Electrical Engineering

(Example: BA, BACH, BACJ, HBA, EDD, MA, MBA, etc.)

Proposed change leads to the degree of: BEE

(Example: BA, BACH, BACJ, HBA, EDD, MA, MBA, etc.)

Proposed name: NA

Proposed new name for revised or new major / minor / concentration / academic unit (if applicable)

Revising or Deleting: Revising

Undergraduate major / Concentration: Electrical Engineering

(Example: Applied Music – Instrumental degree BMAS)

Undergraduate minor:

(Example: African Studies, Business Administration, English, Leadership, etc.)

Graduate Program Policy statement change:

(Must attach your Graduate Program Policy Statement)

Graduate Program of Study:

(Example: Animal Science: MS Animal Science: PHD Economics: MA Economics: PHD)

Graduate minor / concentration:

Note: all graduate studies proposals must include an electronic copy of the Graduate Program Policy Document, highlighting the changes made to the original policy document.

List new courses required for the new or revised curriculum. How do they support the overall program objectives of the major/minor/concentrations)?

(Be aware that approval of the curriculum is dependent upon these courses successfully passing through the Course Challenge list. If there are no new courses enter "None")

CPEG 323, Introduction to Computer Systems Engineering ELEG 404, Digital Imaging and Audio Signal Processing ELEG 456, Electric Power II ELEG 492, Radar Systems and Technology Explain, when appropriate, how this new/revised curriculum supports the 10 goals of undergraduate education: http://www.ugs.udel.edu/gened/ NA Identify other units affected by the proposed changes: (Attach permission from the affected units. If no other unit is affected, enter "None") None Describe the rationale for the proposed program change(s): (Explain your reasons for creating, revising, or deleting the curriculum or program.) This change is designed to give our students additional flexibility in selecting their Foundation Electives. **Program Requirements:** (Show the new or revised curriculum as it should appear in the Course Catalog. If this is a revision, be sure to indicate the changes being made to the current curriculum and include a side-by-side comparison of the credit distribution before and after the proposed change.) **ROUTING AND AUTHORIZATION:** (Please do not remove supporting documentation.) Department Chairperson ______Date_____ Dean of College Date Chairperson, College Curriculum Committee____ _____Date_____ Chairperson, Senate Coordinating Com.____ Date

Date of Senate Resolution ______ Date to be Effective ______ Registrar Program Code Date

Board of Trustee Notification Date

Date

We want to add the following courses as foundation electives:

Revised 10/23/2007 /khs

Current		Revised	
DEGREE: BACHELOR OF ELECTRICAL ENGINEERING		DEGREE: BACHELOR OF ELECTRICAL ENGINEERING	
MAJOR: ELECTRICAL ENGINEERING		MAJOR: ELECTRICAL ENGINEERING	
CURRICULUM Parenthesized figures indicate year and semester in which the course should be taken. $(1 = \text{freshman}, 2 = \text{sophomore}, 3 = \text{junior}, 4 = \text{senior})$ and semester (F= fall, S = spring)	CREDITS	CURRICULUM Parenthesized figures indicate year and semester in which the course should be taken. (1 = freshman, 2 = sophomore, 3 = junior, 4 = senior) and semester (F= fall, S = spring)	CREDITS
UNIVERSITY REQUIREMENTS		UNIVERSITY REQUIREMENTS	
ENGL 110 Critical Reading and Writing (minimum grade C-)	3(1F)	ENGL 110 Critical Reading and Writing (minimum grade C-)	3(1F)
First Year Experience (FYE)	0-4	First Year Experience (FYE)	0-4
Discovery Learning Experience (DLE)	3	Discovery Learning Experience (DLE)	3
Breadth Requirements	12	Breadth Requirements	12
Multi-cultural Course(s)	3	Multi-cultural Course(s)	3
Major Requirements		Major Requirements	
Breadth Requirements	21	Breadth Requirements	21
College of Engineering Breadth Requirements The College of Engineering requires 21 total Breadth Requirement credits (essentially 9 credits in addition to the University Breadth Requirement.) • If chosen carefully, up to 3 credits from each of the University Breadth Requirement categories may be used to simultaneously satisfy the College of Engineering Breadth Requirements for this major. • Of the 21 credits, 6 credits must be at the Upper Level (usually 300-level or higher) as designated on the College of Engineering Breadth Requirement list. • Of the 21 credits, 3 credits may be used to satisfy the University Multicultural Requirement (recommended for timely progress toward degree completion.) • All Breadth Requirement coursework must be passed with a minimum grade of C-		College of Engineering Breadth Requirements The College of Engineering requires 21 total Breadth Requirement credits (essentially 9 credits in addition to the University Breadth Requirement.) • If chosen carefully, up to 3 credits from each of the University Breadth Requirement categories may be used to simultaneously satisfy the College of Engineering Breadth Requirements for this major. • Of the 21 credits, 6 credits must be at the Upper Level (usually 300-level or higher) as designated on the College of Engineering Breadth Requirement list. • Of the 21 credits, 3 credits may be used to satisfy the University Multicultural Requirement (recommended for timely progress toward degree completion.) • All Breadth Requirement coursework must be passed with a minimum grade of C	
One of the following four courses must be taken:	3(3F)	One of the following four courses must be taken:	3(3F)
ENGL 301 Expository Writing		ENGL 301 Expository Writing	
ENGL 312 Written Communications in Business		ENGL 312 Written Communications in Business	
ENGL 410 Technical Writing		ENGL 410 Technical Writing	
ENGL 413 Topics in Professional Writing		ENGL 413 Topics in Professional Writing	
EGGG 101 Introduction to Engineering	2(1F)	EGGG 101 Introduction to Engineering	2(1F)
MATH 241 Analytic Geometry and Calculus A	4(1F)	MATH 241 Analytic Geometry and Calculus A	4(1F)
MATH 242 Analytic Geometry and Calculus B	4(1S)	MATH 242 Analytic Geometry and Calculus B	4(1S)
MATH 243 Analytic Geometry and Calculus C	4(2F)	MATH 243 Analytic Geometry and Calculus C	4(2F)
MATH 341 Differential Equations with Linear Algebra I	3(2S)	MATH 341 Differential Equations with Linear Algebra I	3(2S)
MATH 342 Differential Equations with Linear Algebra II	3(3F)	MATH 342 Differential Equations with Linear Algebra II	3(3F)
CHEM 103 General Chemistry	4(1F)	CHEM 103 General Chemistry	4(1F)
PHYS 207 Fundamentals of Physics I	4(1S)	PHYS 207 Fundamentals of Physics I	4(1S)
PHYS 208 Fundamentals of Physics II	4(2F)	PHYS 208 Fundamentals of Physics II	4(2F)
CISC 106 General Computer Science for Engineers	3(1F)	CISC 106 General Computer Science for Engineers	3(1F)
CISC 181 Introduction to Computer Science II	3(1S)	CISC 181 Introduction to Computer Science II	3(1S)
CISC 220 Data Structures	3(2F)	CISC 220 Data Structures	3(2F)
CPEG 202 Introduction to Digital Systems	3(1S)	CPEG 202 Introduction to Digital Systems	3(1S)
CPEG 222 Microprocessor Based Systems	4(2S)	CPEG 222 Microprocessor Based Systems	4(2S)
ELEG 205 Analog Circuits I	4(2F)	ELEG 205 Analog Circuits I	4(2F)
ELEG 305 Signals and Systems	3(2S)	ELEG 305 Signals and Systems	3(2S)
ELEG 309 Electronic Circuit Analysis I	4(2S)	ELEG 309 Electronic Circuit Analysis I	4(2S)
ELEG 310 Random Signals and Noise	3(3S)	ELEG 310 Random Signals and Noise	3(3S)
ELEG 320 Field Theory I	4(3F)	ELEG 320 Field Theory I	4(3F)
ELEG 340 Solid State Electronics	3(3F)	ELEG 340 Solid State Electronics	3(3F)

ELEG 491 Ethics and Impacts of Engineering	3(4S)	ELEG 491 Ethics and Impacts of Engineering	3(4S)
Three of the following five foundation elective courses must be taken: 3S, 4F	9	Three of the following nine foundation elective courses must be taken: 3S, 4F	9
ELEG 306 Digital Signal Processing		CPEG 323 Introduction to Computer Systems Engineering	
ELEG 312 Electronic Circuit Analysis II		ELEG 306 Digital Signal Processing	
ELEG 403 Communication Systems Engineering		ELEG 312 Electronic Circuit Analysis II	
ELEG 413 Field Theory II		ELEG 403 Communication Systems Engineering	
ELEG 418 Digital Control Systems		ELEG 404 Digital Imaging and Audio Signal Processing	
		ELEG 413 Field Theory II	
		ELEG 418 Digital Control Systems	
		ELEG 456 Electric Power II	
		ELEG 492 Radar Systems and Technology	
Design Requirement (DLE)	6(4F&S)	Design Requirement (DLE)	6(4F&S)
In addition to the content of the normal program, every student must take at least six credits in ELEG course designated as "design." Regularly offered ELEG design courses include ELEG 498 offered in the fall and ELEG 499 offered in the spring.		In addition to the content of the normal program, every student must take at least six credits in ELEG course designated as "design." Regularly offered ELEG design courses include ELEG 498 offered in the fall and ELEG 499 offered in the spring.	
Technical Electives	15	Technical Electives	15
In addition to the design requirement, each student, in consultation with their advisor, must select a program of technical electives satisfying the following: (1) With some exceptions, technical electives consist of 300-level or above engineering, mathematics, natural sciences, and computer science courses. With the permission of the student's advisor, certain 200-level courses, such as PHYS 211, are permitted. (2) At least 15 technical elective credits must be taken. (3) Of the 15 technical elective credits, at least 9 must be in CPEG or ELEG courses. (4) Of the 9 credits in ELEG or CPEG, at least 6 must be in 400-level or above ELEG or CPEG courses.		In addition to the design requirement, each student, in consultation with their advisor, must select a program of technical electives satisfying the following: (1) With some exceptions, technical electives consist of 300-level or above engineering, mathematics, natural sciences, and computer science courses. With the permission of the student's advisor, certain 200-level courses, such as PHYS 211, are permitted. (2) At least 15 technical elective credits must be taken. (3) Of the 15 technical elective credits, at least 9 must be in CPEG or ELEG courses. (4) Of the 9 credits in ELEG or CPEG, at least 6 must be in 400-level or above ELEG or CPEG courses.	
CREDITS TO TOTAL A MINIMUM OF	126	CREDITS TO TOTAL A MINIMUM OF	126

Current

ELEG 320 Field Theory I

DEGREE: HONORS BACHELOR OF ELECTRICAL ENGINEERING

MAJOR: ELECTRICAL ENGINEERING

Revised

DEGREE: HONORS BACHELOR OF ELECTRICAL ENGINEERING

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ELEG 309 Electronic Circuit Analysis I	4(2S)	ELEG 309 Electronic Circuit Analysis I	4(2S)
ELEG 310 Random Signals and Noise	3(3S)	ELEG 310 Random Signals and Noise	3(3S)

4(3F)

ELEG 320 Field Theory I

4(3F)

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		ELEG 456 Electric Power II	
		ELEG 418 Digital Control Systems	
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ELEG 312 Electronic Circuit Analysis II		ELEG 306 Digital Signal Processing	
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ELEG 340 Solid State Electronics	3(3F)	ELEG 340 Solid State Electronics	3(3F)

HONORS BACHELOR OF ELECTRICAL ENGINEERING

A recipient of the Honors Bachelor of Electrical Engineering must satisfy the following:

- 1. All requirements for the Bachelor of Electrical Engineering degree. $\label{eq:Bachelor}$
- 2. All generic University requirements for the Honors Degree. Graduate courses approved for this purpose by the department may be counted as Honors courses