EXECUTIVE COMMITTEE
BOURNS COLLEGE OF ENGINEERING
REPORT TO THE RIVERSIDE DIVISION
MAY 29, 2018

To be adopted:

Proposed Changes to Electrical Engineering Major

PRESENT:
Major Requirements

1. Lower-division requirements (73 units)
   a) One course in the biological sciences chosen from an approved list
   b) CHEM 001A, CHEM 01LA
   c) CS 010, CS 013, CS 061
   d) EE 001A, EE 01LA, EE 001B, EE 010, EE 020
   e) MATH 008B or MATH 009A, MATH 009B, MATH 009C, MATH 010A, MATH 010B, MATH 046
   f) PHYS 040A, PHYS 040B, PHYS 040C

2. Upper-division requirements (81 units)
   a) EE 100A, EE 100B, EE 105, EE 110A, EE 110B, EE 114, EE 116, CS 120A/EE 120A, CS 120B/EE 120B, EE 132, EE 133, EE 141, EE 175A, EE 175B
   b) One of EE 128 or EE 155
   c) ENGR 181W
   d) Sixteen (16) units of technical electives chosen from CS 161, CS 168/EE 168; EE 115, EE 117, EE 123, EE 128 (if not chosen as a required course in b) above), EE 135, EE 136, EE 137, EE 138, EE 139, EE 144, EE 145/ME 145, EE 146, EE 150, EE 151, EE 152, EE 153, EE 155 (if not chosen as a required course in b) above), EE 162, EE 165, ENGR 160

To ensure depth, the choice of technical electives must include at least one coherent sequence of at least three (3) electrical engineering courses (lead course plus two additional) in one focus area of electrical engineering, as defined below.

PROPOSED:
Major Requirements

1. [no change]

2. Upper-division requirements (81 units)
   a) No change.
   b) No change.
   c) No change.
   d) Sixteen (16) units of technical electives chosen from CS 161, CS 168/EE 168; EE 115, EE 117, EE 118, EE 123, EE 128 (if not chosen as a required course in b) above), EE 135, EE 136, EE 137, EE 138, EE 139, EE 142, EE 144, EE 145/ME 145, EE 146, EE 147, EE 150, EE 151, EE 152, EE 153, EE 155 (if not chosen as a required course in b) above), EE 162, EE 165, ENGR 160

[no change]

Communications, Signal Processing and Networking. Lead Course: EE 141. Sequence Courses: EE 115, EE 117, EE 128, EE 146, EE 150, EE 152, ENGR 160	Communications, Signal Processing and Networking. Lead Course: EE 141. Sequence Courses: EE 115, EE 117, <u>EE 118,</u> EE 128, EE 146, EE 150, EE 152, ENGR 160
Control, Robotics and Machine Intelligence. Lead Course: EE 132. Sequence Courses: EE 128, EE 144, EE 145/ME 145, EE 146, EE 151, EE 152, ENGR 160	Control, Robotics and Machine Intelligence. Lead Course: EE 132. Sequence Courses: EE 128, <u>EE 142,</u> EE 144, EE 145/ME 145, EE 146, EE 151, EE 152, ENGR 160
Embedded Systems and VLSI. Lead Course: EE 128. Sequence Courses: EE 135, EE 165, CS 168/EE 168, CS 161, ENGR 160	Embedded Systems and VLSI. Lead Course: EE 128. Sequence Courses: EE 135, <u>EE 147,</u> EE 165, CS 168/EE 168, CS 161, ENGR 160
Nanotechnology, Advanced Materials and Devices. Lead Course: EE 133. Sequence Courses: EE 117, ~~EE 134,~~ ~~EE 135,~~ EE 136, EE 137, EE 138, EE 139, EE 162, ~~EE 165,~~ ~~CS 168/EE 168, ENGR 160~~	Nanotechnology, Advanced Materials and Devices. Lead Course: EE 133. Sequence Courses: EE 117, EE 136, EE 137, EE 138, EE 139, EE 162
Power Engineering. Lead Course: EE 155.Sequence Courses: EE 123, EE 128, EE 153, ENGR 160.	Power Engineering. Lead Course: EE 155. Sequence Courses: <u>EE 117,</u> EE 123, EE 128, EE 153, ENGR 160.
Example course sequences are available through the Student Affairs Office in the College of Engineering or **student.engr.ucr.edu**	[no change]

<u>Justification:</u>

1. EE 118, EE 142, and EE 147 are new upper division courses. They need to be added as technical electives and into the sequence courses for the related focus areas.
2. Removing EE 134 from Nanotechnology, Advanced Materials and Devices focus area: course no longer exists.
3. Removing EE 135, EE 165, CS 168/EE 168 and ENGR 160 from Nanotechnology, Advanced Materials and Devices focus area to ensure depth in this area. All courses removed from this area are much more relevant to the area of Embedded Systems and VLSI.
4. Adding EE 117 to Power Engineering sequence courses. Deeper understanding of electromagnetics is important to power generation, transmission and electric drives.

<u>Approvals:</u>

Approved by the Department of Electrical & Computer Engineering:	January 25, 2018
Approved by the Executive Committee of the College of Engineering:	January 30, 2018
Approved by the Committee on Educational Policy:	April 11, 2018