

# BS Electrical Engineering Curriculum

Effective **Spring 2015** (120 hours)

UNM Core Curriculum, June 2015

FRESHMAN-FIRST YEAR					
FALL SEMESTER			SPRING SEMESTER		
Course #	core	CR	Course #	core	CR
ECE 101: Intro to ECE		1	MATH 163: Calculus II		4
ECE 131: Programming Fundamentals		3	ECON 105 or 106* Macro/Microeconomics	<b>SB</b>	3
ENGL 110: Accelerated Composition <i>(or equivalent based on placement)</i>	<b>WS</b>	3	ENGL 120: Composition III	<b>WS</b>	3
MATH 162: Calculus I	<b>MTH</b>	4	PHYC 161: General Physics II	<b>PNS</b>	3
PHYC 160: General Physics I	<b>PNS</b>	3	PHYC 161L: General Physics II Lab	<b>PNS</b>	1
		14			14
SOPHOMORE-SECOND YEAR					
FALL SEMESTER			SPRING SEMESTER		
Course #	core	CR	Course #	core	CR
ECE 203: Circuit Analysis I		3	ECE 206L: Instrumentation		2
ECE 238L: Comp. Logic Design		4	ECE 213: Circuit Analysis II		3
MATH 264: Calculus III		4	ECE 300: Advanced Eng. Mathematics		4
PHYC 262: General Physics III		3	Basic Science or Math Elective		3
ENGL 219: Technical Writing	<b>WS</b>	3	Humanities*	<b>HU</b>	3
		17			15
JUNIOR-THIRD YEAR					
FALL SEMESTER			SPRING SEMESTER		
Course #	core	CR	Course #	core	CR
ECE 314: Signals and Systems		3	ECE 322L (ECE Completeness Course) <i>Spring Only</i>		4
ECE 321L: Electronics I <i>Fall Only</i>		4	ECE 344L: Microprocessors		4
ECE 340: Probabilistic Methods		3	ECE 360 (ECE Completeness Course) <i>Spring Only</i>		3
ECE 371 (ECE Completeness Course) <i>Fall Only</i>		3	ECE 381 (ECE Completeness Course) <i>Spring Only</i>		3
Social/Behavioral Science*	<b>SB</b>	3	Humanities*	<b>HU</b>	3
		16			17
SENIOR -FOURTH YEAR					
FALL SEMESTER			SPRING SEMESTER		
Course #	core	CR	Course #	core	CR
ECE 341 (ECE Completeness Course) <i>Fall Only</i>		3	ECE 420: Senior Design II <i>Spring Only</i>		3
ECE 345 (ECE Completeness Course) <i>Fall Only</i>		3	ECE Track Course**		3
ECE 419: Senior Design I <i>Fall Only</i>		3	Technical Elective***		3
ECE Track Course**		3			
Fine Arts*	<b>FA</b>	3	Foreign Language*	<b>FL</b>	3
		15			12

\*See approved list of core electives in the ECE Undergraduate Handbook.

\*\*ECE track courses for Electrical Engineering must be from a listed track.

\*\*\*Technical elective is developed in consultation with your academic advisor and can be taken from ECE, Computer Science, Physics, Math or other engineering-related courses 300-level or above. (ECE 231: Intermediate Programming is the only 200-level exception)

No grades below a 'C' are allowed in the Electrical Engineering Program.

Updated March 9, 2017

# BS Electrical Engineering Graduation Requirements

## Effective Spring 2015

Total credit hours: 120; All grades must be C or better in the Electrical Engineering Program  
For more information, see the ECE Undergraduate Handbook at [www.ece.unm.edu](http://www.ece.unm.edu)

### General Education Component

#### Written Communication (9 credit)

ENGL 110♦ Accelerated Composition (3)  
(or ENGL 111 & ENGL 112 Composition I & II (6);  
or ENGL 113 Enhanced Composition (4) )  
ENGL 120 Composition III (3)  
Engl 219 Technical Writing (3)

#### Area of Knowledge (18 credits)

Core Social/Behavioral Science Elect. (3)  
Econ 105 or 106 (Social & Beh. Science) (3)  
Core Humanities Elective (6)  
Core Fine Arts Elective (3)  
Core Second-Language Elective (3)

### Mathematics & Sciences Component

#### Mathematics (16 credits)

Math 162♦, 163♦, 264 Calculus I, II, III (12)  
ECE 300- Advanced Engineering Mathematics (4)

#### Science (13 credits)

Phys 160\*, 161\*, 161L\*, 262\* General Physics (10)  
Basic Science or Mathematics\* 300 level and above (3)  
(Chem 121 or 122, Bio 110 or 123 or 202, Astr 270 or 271)

### Electrical Engineering Component

#### Required (36 credits)

ECE 101 Introduction to ECE (1)\*  
ECE 131 Programming Fundamentals (3)\*  
ECE 203 Circuit Analysis I (3)\*  
ECE 206L Instrumentation (2)  
ECE 213 Circuit Analysis II (3)  
ECE 238L Computer Logic Design (4)  
ECE 314 Signals & Systems (3)  
ECE 321L Electronics I (4)  
ECE 340 Probabilistic Methods (3)  
ECE 344L Microprocessors (4)  
ECE 419 Senior Design I (3)  
ECE 420 Senior Design II (3)

#### EE Completeness (19 credits)

ECE 322L Electronics II (4)  
ECE 341 Intro to Communication Systems (3)  
ECE 345 Intro to Control Systems (3)  
ECE 360 Electromagnetic Fields & Waves (3)  
ECE 371 Materials & Devices (3)  
ECE 381 Intro to Power Systems (3)

#### Track Courses (6 credits - depth)

Two courses from one of the following available tracks (6):

- Digital Systems
- Electromagnetics
- Microelectronics
- Optoelectronics
- Power/Energy Systems
- Signals and Communications
- Systems and Controls

#### Technical Elective (3 credits - breadth)

ECE Technical Elective (3)  
Approved 300-level and above course developed in  
consultation with your faculty advisor  
May include ECE 231 Intermediate Programming (3)

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*Eighteen hours of prerequisite technical courses must be completed prior to applying to the department.*

*A GPA of 2.5 or better on prerequisite coursework is required for admission to the department. A student's overall GPA must not fall below 2.20*

*♦ Denotes required prerequisites that must be completed prior to applying for admission to ECE.*

*\* Ten additional hours of prerequisite course work must be chosen from these courses.*