## **ELECTRICAL ENGINEERING**

Louisiana Tech University Curriculum as of 2020 to Current

	Curriculum as of 2020 to Current	
Name	Date	
		<del>_</del>
CWID	Email	@latech.edu

ELEN   223   ENGR   221   3   3   WS   R   224   ELEN   224   ELEN   224   ELEN   225   ELEN   225   ELEN   224   ELEN   225   ELEN   225   ELEN   226   ELEN   227   ELEN   227   ELEN   228   ELEN   229   ELEN   229   ELEN   229   ELEN   229   ELEN   220   ELEN   220   ELEN   221   313   WR   R   222   ELEN   321   ELEN   224   ELEN   224   334   MATH   244, PHYS   202, ENGR   221   3   WS   R   335   ELEN   242   334   MATH   244, PHYS   202, ENGR   221   3   FR   R   222   23   ELEN   236   ELEN   236   339   ELEN   236   2	COUR	ee.	DDEDECHICITE	COL	OTD		CDADE
224 ELEN 223, MATH 245○			PREREQUISITE	SCH		D*	GRADE
229 ELEN 2240  MATH 2420  318 PHYS 202 ENGR 221, MATH 241-244 GPA >= 2.0, 3	ELEN						
242 MATH 2420 313 PHYS 202, ENGR 221, MATH 241-244 GPA >= 2.0, 3 W R 321 ELEN 224, MATH 2445 322 ELEN 321 333 ELEN 242 334 MATH 244, PHYS 202, ENGR 221 335 ELEN 243, 334 336 ELEN 224, 334 337 ELEN 234, 335 338 ELEN 234, 336 339 ELEN 335 339 ELEN 3360 406 ELEN 321, 322, 336, 339, 411 & Senior Standing 407 ELEN 406 408 ELEN 407 411 ELEN 313 33 S R BISC 101 20 MATH 240, CHEM 1000 20 103 CHEM 100, 1010 21 ENGL 101 22 ENGR 121, MATH 2420 22 ENGR 122, MATH 2420, CHEM 1010 22 ENGR 122, MATH 2420 232 ENGR 122, MATH 2420 242 ENGR 122, MATH 2420 242 ENGR 122, MATH 2420 243 MATH 244 35 S S S S S S S S S S S S S S S S S S S							
313 PHYS 202, ENGR 221, MATH 241-244 GPA >= 2.0, 3 W R 321 ELEN 224, MATH 245 322 ELEN 321 3 S R 333 ELEN 242 334 MATH 244, PHYS 202, ENGR 221 3 F R 335 ELEN 335 336 ELEN 335 339 ELEN 335 339 ELEN 336 340 ELEN 335 35 ELEN 335 37 ELEN 336 38 ELEN 336 38 ELEN 336 39 ELEN 336 30 ELEN 336 30 ELEN 336 31 S R 320 ELEN 336 31 S R 321 ELEN 336 32 ELEN 336 33 S R 339 ELEN 336 339 ELEN 322, SAR 339 ELEN 340 406 ELEN 321, 322, 336, 339, 411 & Senior Standing 1 F R 407 408 ELEN 407 1 S R 411 ELEN 313 3 S R 411 ELEN 313 4 S R 4					-		
321 ELEN 224, MATH 245							
322 ELEN 321 33 S R 333 ELEN 422 3 3 WS R 334 MATH 244, PHYS 202, ENGR 221 3 F R 35 ELEN 224, 334 32 W R R 335 ELEN 325 3 S R 336 ELEN 335 3 S R 339 ELEN 3360 1 S R 340 ELEN 3360 1 S R 8 ELEN 321, 322, 336, 339, 411 & Senior Standing 1 F R R 406 ELEN 406 ELEN 407 1 S R R 411 ELEN 313 3 S R 8 ELEN 313 S EN 314 ELEN 313 3 S R 8 ELEN 314 ELEN 313 S EN 314 ELEN 315 ELEN ELEN 3							
333   ELEN 242   3   WS   R							
334 MATH 244, PHYS 202, ENGR 221							
335 ELEN 224, 334 3 3 W R 336 ELEN 336 ELEN 336 ELEN 336 1 S R 339 ELEN 336 ELEN 321,322,336,339,411 & Senior Standing 1 F R R 406 ELEN 407 ELEN 407 1 S R ELEN 5010 ELECTIVE 1 FW R 5 ELEN 5010 ELECTIVE 1 TFW R 5 ELEN 5010 E							
336 ELEN 336 339 ELEN 3360 406 ELEN 321,322,336,339,411 & Senior Standing 407 ELEN 406 408 ELEN 407 411 S R 418 419 ELEN 407 411 S R 411 ELEN 313 3 S R  BISC 101 CHEM 101 CHEM 100 103 CHEM 100, 1010 ENGL 101 ENGL 101 ENGL 101 20 MATH 2400, CHEM 1000 21 121 ENGR 120, MATH 2410, CHEM 1010 22 ENGR 121, MATH 2420 230 ENGR 122, MATH 242, PHYS 201 241 ENGR 122, MATH 242, PHYS 201 25 ENGR 124 MATH 244 26 MATH 241 37 MATH 241 38 MATH 242 39 MATH 244 31 MATH 242 30 MATH 2440 31 MATH 2440 32 MATH 2441 33 MATH 242 34 MATH 2441 34 MATH 2441 35 MATH 2441 36 MATH 2441 37 MATH 2441 38 MATH 2441 39 MATH 2441 30 MATH 2441 30 MATH 2441 30 MATH 2441 31 MATH 245 31 R ELEN Directed Elective 31 R ELEN Directed Elective 41 FW R5 ELEN Senior Elective 42 MATH, STAT, or PHYS Elective 50 Cial Science 50 Cial Science 50 Social Science					-		
S R   A   A   A   A   A   A   A   A   A							
406							
## AUTHOR   ELEN 406							
### AUTOM STATE   STAT				-			
### BISC 101   CHEM 101   CHEM 100   2   CHEM 100   CHEM 101   CHE							
BISC   101   CHEM   101   CHEM   100   CHEM   101   CHEM   100   CHEM   100   CHEM   100   CHEM   100   CHEM   100   CHEM   101   COMM   101   COMM   101   COMM   101   COMM   102   ENGL   102   SOURCE   SOURCE   COMM   102   ENGL   102   SOURCE   COMM   102   ENGL   102   SOURCE   COMM   100   COMM   102   COMM   102   ENGR   120   MATH   2410   COMM   122   ENGR   121, MATH   2420   COMM   122   ENGR   122, MATH   242, PHYS   201   COMM   122   ENGR   122, MATH   242, PHYS   201   COMM   122   ENGR   122, MATH   242   COMM   123							
CHEM			ELEN 313		S	R	
103   CHEM 100, 1010   1							
COMM   101	CHEM						
ENGL 101			CHEM 100, 1010				
102   ENGL 101   3   3   3   5   5   5   5   5   5   5							
Solution	ENGL						
ENGR 120 MATH 240o, CHEM 100o 2 * *							
121   ENGR 120, MATH 2410, CHEM 1010   2							
122   ENGR 121, MATH 2420   2	ENGR						
220   ENGR 122, MATH 242, PHYS 201   3							
ENGR 122, MATH 242, PHYS 201   3						*	
ENGR 122, MATH 242   3							
MATH   241   MATH   240   3						*	
MATH       241       MATH 240       3       *         242       MATH 241       3       *         243       MATH 242       3       *         244       MATH 243       3       *         245       MATH 244       3       *         313       MATH 245       3       R         PHYS       201       MATH 241       3       *         202       MATH 242, PHYS 201       3       *         ELECTIVES       3       R       *         Art (ART 290, KINE 280, MUGN 290, or THTR 290) ART 290       3       R         ELEN Directed Elective       3       R         ELEN Directed Elective       3       R         ELEN Senior Elective       3       R         ELEN Senior Elective       3       FW 85         ELEN Senior Elective       1       FW 85         ELEN Senior Elective       1       FW 85         Humanity       3       R         MATH, STAT, or PHYS Elective       3       R         Social Science       3       R			ENGR 122, MATH 242				
242       MATH 241       3       *         243       MATH 242       3       *         244       MATH 243       3       *         245       MATH 244       3       *         313       MATH 245       3       R         PHYS       201       MATH 241       3       *         202       MATH 242, PHYS 201       3       *         ELECTIVES         Art (ART 290, KINE 280, MUGN 290, or THTR 290) ART 290       3       R         ELEN Directed Elective       3       R         ELEN Directed Elective       3       R         ELEN Senior Elective       3       R         ELEN Senior Elective       3       FW R5         ELEN Senior Elective       1       FW R5         ELEN Senior Elective       1       FW R5         Humanity       3       R         MATH, STAT, or PHYS Elective       3       R         Social Science       3       R							
243       MATH 242       3       *         244       MATH 243       3       *         245       MATH 244       3       *         313       MATH 245       3       R         PHYS       201       MATH 241       3       *         202       MATH 242, PHYS 201       3       *         ELECTIVES         Art (ART 290, KINE 280, MUGN 290, or THTR 290) ART 290       3       R         ELEN Directed Elective       3       R         ELEN Directed Elective       3       R         ELEN Senior Elective       3       R         ELEN Senior Elective       3       FW R5         ELEN Senior Elective       1       FW R5         ELEN Senior Elective       1       FW R5         Humanity       3       R         MATH, STAT, or PHYS Elective       3       R         Social Science       3       R	MATH						
244       MATH 243       3       *         245       MATH 244       3       *         313       MATH 245       3       R         PHYS       201       MATH 241       3       *         202       MATH 242, PHYS 201       3       *         ELECTIVES         Art (ART 290, KINE 280, MUGN 290, or THTR 290)ART 290       3       R         ELEN Directed Elective       3       R         ELEN Directed Elective       3       R         ELEN Senior Elective       3       R         ELEN Senior Elective       3       FW R5         ELEN Senior Elective       1       FW R5         ELEN Senior Elective       1       FW R5         Humanity       3       R         MATH, STAT, or PHYS Elective       3       R         Social Science       3       R							
245   MATH 244   3						*	
313   MATH 245   3   R							
PHYS 201 NATH 241 202 NATH 242, PHYS 201         3         *						*	
202 MATH 242, PHYS 201         ELECTIVES         Art (ART 290, KINE 280, MUGN 290, or THTR 290) ART 290         BLEN Directed Elective         ELEN Directed Elective         BLEN Directed Elective         ELEN Senior Elective         BLEN Senior Elective         ELEN Senior Elective         ELEN Senior Elective         ELEN Senior Elective         Humanity         MATH, STAT, or PHYS Elective         Social Science         Social Science							
ELECTIVES           Art (ART 290, KINE 280, MUGN 290, or THTR 290) ART 290         3           ELEN Directed Elective         3         R           ELEN Directed Elective         3         R           ELEN Directed Elective         3         R           ELEN Senior Elective         3         FW         R5           ELEN Senior Elective         1         FW         R5           ELEN Senior Elective         1         FW         R5           ELEN Senior Elective         1         FW         R5           Humanity         3         R           MATH, STAT, or PHYS Elective         3         R           Social Science         3         R	PHYS					*	
Art (ART 290, KINE 280, MUGN 290, or THTR 290) ART 290       3       R         ELEN Directed Elective       3       R         ELEN Directed Elective       3       R         ELEN Directed Elective       3       R         ELEN Senior Elective       3       FW       R5         ELEN Senior Elective       1       FW       R5         ELEN Senior Elective       1       FW       R5         ELEN Senior Elective       1       FW       R5         Humanity       3       R         MATH, STAT, or PHYS Elective       3       R         Social Science       3       S			MATH 242, PHYS 201	3			
ELEN Directed Elective       3       R         ELEN Directed Elective       3       R         ELEN Directed Elective       3       R         ELEN Senior Elective       3       FW R 5         ELEN Senior Elective       1       FW R 5         ELEN Senior Elective       1       FW R 5         ELEN Senior Elective       1       FW R 5         Humanity       3       R         MATH, STAT, or PHYS Elective       3       R         Social Science       3       S							
ELEN Directed Elective       3       R         ELEN Directed Elective       3       R         ELEN Senior Elective       3       FW R5         ELEN Senior Elective       1       FW R5         ELEN Senior Elective       1       FW R5         Humanity       3       R         MATH, STAT, or PHYS Elective       3       R         Social Science       3       Social Science	Art (ART	290, K	INE 280, MUGN 290, or THTR 290 <u>) ART 290</u>				
ELEN Directed Elective       3       R         ELEN Directed Elective       3       R         ELEN Senior Elective       3       FW R5         ELEN Senior Elective       1       FW R5         ELEN Senior Elective       1       FW R5         Humanity       3       R         MATH, STAT, or PHYS Elective       3       R         Social Science       3       Social Science	ELEN Dir	ected	Elective				
ELEN Directed Elective       3       R         ELEN Senior Elective       3       FW       R 5         ELEN Senior Elective       1       FW       R 5         ELEN Senior Elective       1       FW       R 5         ELEN Senior Elective       1       FW       R 5         Humanity       3       R         MATH, STAT, or PHYS Elective       3       R         Social Science       3       Social Science	ELEN DII	ectea	Elective				
ELEN Senior Elective	ELEN Dir	ected	Elective				
ELEN Senior Elective         1         FW         R 5           ELEN Senior Elective         1         FW         R 5           Humanity         3         R           MATH, STAT, or PHYS Elective         3         R           Social Science         3         Social Science	ELEN Se	nior El	ective				
ELEN Senior Elective         1         FW         R 5           Humanity         3         R           MATH, STAT, or PHYS Elective         3         R           Social Science         3         Social Science							
Humanity         3           MATH, STAT, or PHYS Elective         3         R           Social Science         3         Social Science							
MATH, STAT, or PHYS Elective         3         R           Social Science         3         Image: Control of the co					FW	R 5	
MATH, STAT, or PHYS Elective         3         R           Social Science         3         Image: Control of the co	Humanity	1					
Social Science 3 Social Science 3	MATH, S	TAT, c	or PHYS Elective			R	
Social Science 3 1	Social Sc	ience					
TOTAL SEMESTER HOURS 128	Social Sc	ience		-			
	TOTAL S	SEMES	STER HOURS	128		_	

	SUBSTITUTIONS												
	COURSE	SCH	•	GRADE									
1													
2													
3													
4													
5													
6													
7													
8													
9													
10													

	ADDITIONAL COURSES											
	COURSE	SCH	GRADE									
1												
2												
3												
4												
5												

	GPA
Rubric GPA	
MATH 241-244 GPA	

MATH 241-244 GPA			
	NOTES		

- requires grade of "C" or higher
- o credit or registration in
- R course in rubric
- 1 Directed electives must be selected in consultation with advisor.
- 2 Petitions must be filed for substitutions.
- 3 A student must have a minimum 2.0 GPA on all hours pursued in courses designated:
- 4 ELEN Senior Electives: Complete 2 out of 4 group (1) ELEN 437 & 439

  - (2) ELEN 461 & 469
  - (3) ELEN 471 & 479
  - (4) ELEN 481 & 489

ADDITIONAL COMMENTS	

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Advisor:			

## **ELECTRICAL ENGINEERING**

Louisiana Tech University

FRESHMAN YEAR												
Fall Quarter	Hr	r		Winter Quarter	Hr	Spring Quarter	Hr					
ENGR 120 * Engineering Prob	olem Solving I 2	ENGR	121 '	* Engineering Problem Solving II	2	ENGR 122 * Engineering Problem Solving III	2					
MATH 240 * Precalculus	3	MATH	241 3	* Calculus I	3	MATH 242 * Calculus II	3					
CHEM 100 * General Chemist	ry 2	CHEM	101	General Chemistry	2	PHYS 201 * Physics for Engr & Science I	3					
COMM 101   Principles of Con	nm Studies 3	CHEM	103	General Chemistry Laboratory	1	ENGL 102 Freshman Composition II	3					
FYE 100 First Year Experi	ence 1	ENGL	101	Freshman Composition I	3							
	11	1			11		11					

	SOPHOMORE YEAR													
Fall Quarter			Hr			Winter Quarter	Hr		Spring Quarter	Hr				
ENGR	221 *	Electrical Engineering & Circuits	3	ENGR	220	Statics & Mechs of Materials	3	ENGR 222	Thermodynamics	3				
MATH	243 *	Calculus III	3	MATH	244 '	Calculus IV	3	MATH 245*	Differential Equations	3				
ELEN	242	Intro to Microprocessors	3	ELEN	223 *	Electrical Circuits II	3	PHYS 202	Physics for Engr & Sci. II	3				
BISC	101	Fundamentals of Biology	3	ELEN	333	Intro to Digital Design	3	ENGL 303	Technical Writing	3				
			12				12			12				
				1				1						

	JUNIOR YEAR													
Fall Quarter			Hr		Winter Quarter	Hr		Spring Quarter	Hr					
ELEN	224	Electrical Circuits III	3	ELEN 313	Intro to Elec & Magnetic Fields	3	ELEN 322	Digital Signal Processing	3					
ELEN	229	Electrical Circuits Lab	1	ELEN 321	Linear Systems	3	<b>ELEN 336</b>	Electronic Circuits II	3					
ELEN	334	Solid State Electronics	3	<b>ELEN 335</b>	Electronic Circuits I	3	ELEN 339	Electronic Circuits Lab	1					
MATH	313	Intro to Numerical Analysis	3	Social Scienc	e **	3	ELEN 411	Electric & Magnetic Fields	3					
			10			12			10					
				1										

SENIOR YEAR												
Fall Quarter	Hr	Winter Quarter	Hr	Spring Quarter	Hr							
ELEN 406 Electrical Engr Design I	1	ELEN 407 Electrical Engr Design II	1	ELEN 408 Electrical Engr Design III	1							
ELEN Sr Option 1β	4	ELEN Sr Option 2β	4	ELEN Directed Elective◊	3							
ELEN Directed Elective◊	3	ELEN Directed Elective◊	3	Fine Arts Appreciation	3							
ENGR 425 Engr. Ethics & Professionalism	1	Humanity+	3	Social Science**	3							
MATH/SCI Elective			11		10							
	12											

Neither MATH 240 nor CHEM 100 count towards the electrical engineering degree.

 $\beta$  Select from: FALL - ELEN 437 and 439 or ELEN 471 and 479; or WINTER - ELEN 461 and 469 or ELEN 481 and 489.

Courses in **bold** are *typically* offered only once per year.

♦Directed electives are chosen in consultation with advisor and approved by the Program Chair. Three must be ELEN; the other must be MATH, STAT, or PHYS. ELEN Directed Electives must be ELEN 400 level courses. The MATH/SCI elective must be a 300/400 level Math, STAT, or PHYS course.

must be completed within first year of enrollment

†Humanities electives can be selected from Classical Studies, Communications, Foreign Languages, History, Literature, Philosophy, Religious Studies, Interdisciplinary

<sup>\*</sup> requires grade of "C" or higher.

<sup>\*\*</sup>Social Science electives can be selected from Anthropology, Criminal Justice, Economics, Geography, International Studies, Interdisciplinary, Political Science, Psychology, and Sociology.