

Curriculum Guide for AE to BS Electrical Engineering at WCU

Freshman/First Year

1st Semester		Fall			2nd Semester		Spring			
CC Course	WCU Course Equivalent	LS Cat.	Credit Hours	Required/Notes	CC Course	WCU Course Equivalent	LS Cat.	Credit Hours	Required/Notes	
ENG 111	ENGL 101	C1	3		ENG 112	ENGL 202	C1	3		
MAT 271	MATH 153	C2	4	Required	MAT 272	MATH 255	C2	4	Required	
EGR 150	ENGR 199		3	Required	CSC 134 (Other Hrs/ Tech Elective)	EE 200		3	Required	
CHM 151	CHEM 139	C5	4	Required	ECON 251 (Social/ Behav Sciences)	ECON 231	P1	3		
ACA 122	USI 130		1		Humanities/Fine Arts	Humanities/ Fine Arts	P4/P5	3		
Total Credit Hours				15	Total Credit Hours				16	

*This assumes placement into college level courses. This is only meant to be a guide. Please see your academic advisor to develop your individual plan.

*Electrical Engineering is unlikely to be completed in a 4 year time span.

Sophomore/Second Year

3rd Semester		Fall			4th Semester		Spring			
CC Course	WCU Course Equivalent	LS Cat.	Credit Hours	Required/Notes	CC Course	WCU Course Equivalent	LS Cat.	Credit Hours	Required/Notes	
ENGR 212 (Other Hrs/ Tech Elective)	EE 221		3	Required	EGR 215 (Other Hrs/ Tech Elective)	EE 201		4	Required	
COM 231	COMM 201	C3	3		EGR 216* (Other Hrs/ Tech Elective)	EE 211		1	Required	
PHY 251	PHYS 230	C5	4	Required	PHY 252	PHYS 231	C5	3	Required	
MAT 273	MATH 256	C2	4	Required	Social/Behavioral Sciences	History	P3	3		
DFT 170/ EGR 220/ EGR 225 (Other Hours/ Tech Elective)	ENGR 132/ ENGR 201/ ME 301			Not Required for BSEE	MAT 285 (Other Hours/ Elective)	MATH 320	C2	4	Required	
Total Credit Hours				14	Total Credit Hours				15	

Suggested Course Sequence to transfer from NCCCS
Junior/Third Year (at WCU)**

5th Semester		**SUMMER		6th Semester		Fall	
WCU Course	Course Title	Credit Hours	Notes	WCU Course	Course Title	Credit Hours	Notes
EE 202	Network Theory II	3		ENGR 200	Eng/Prac/Prin. II	3	
EE 212	Instrumentation & Networks Lab	1		EE 311	Systems and Electronics Lab	1	
				EE321	Electromagnetic Fields	3	
				EE 331	Fund. Electron. & Semicond.	3	
				EE 351	Systems Analysis I.	3	
				MATH 370	Probability and Statistics	3	
Total Credit Hours		4		Total Credit Hours		16	

Senior/Fourth Year**

7th Semester		Spring		8th Semester		Fall	
WCU Course	Course Title	Credit Hours	Notes	WCU Course	Course Title	Credit Hours	Notes
ENGR 350	Eng/Prac/Prin. III	3		ENGR 400	Engineering Capstone I	3	
EE 312	E-M and Electronic Devices Lab	1		EE 411	Analog Communication Systems	3	
EE 322	Electromagnetic Waves	3		EE 421	Digital System Design	3	
EE 332	Electronics	3		Technical Elective/Minor		3	
ENGR 402	System Dynamics and Control	3		Technical Elective/Minor		3	
PHYS 310	Modern Physics	3					
Total Credit Hours		16				15	

Suggested Course Sequence to transfer from NCCCS

Senior/Fourth Year

9th Semester

Spring

WCU Course	Course Title	Credit Hours	Notes
ENGR 450	Engineering Capstone II	3	
EE 424	Digital Signal Processing	3	
EE 413	Digital Communication Systems	3	
Technical Elective/ Minor		3	
Technical Elective/ Minor		3	
Total Credit Hours		15	

Total Credit Hours

126

NOTE:

- a. Liberal studies (General Education) requirements will be waived for students transferring to WCU with the AE degree.
- b. A grade of C or above is required to obtain transfer credit at WCU. The BSEE degree at WCU in addition requires a grade of C or better in EE 202, 311, 312, 321, 322, 331, and 351.
- c. Students in the BSEE program at WCU need 126 credits to graduate. Transfer students will need to get 12 technical elective or minor credits to graduate.
- d. One Technical Elective is required by the BSEE program at WCU and can be any 3 credit hour 400-level EE course not required in the Electrical Engineering Core, PHYS 322, PHYS 325, or any 3 credit hour 400-level PHYS course.
- e. EE courses at WCU are offered once per year, in the semester shown above.
- f. Students following the above-listed sequence will receive a Math minor at WCU.

* Alternate Course: EGR 210 if 215/216 combination not required

<https://www.wcu.edu/learn/departments-schools-colleges/cet/undergrad-programs/electrical-engineering.aspx>