

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		2	Required	CSC 134 (Other Hrs/ Tech Elective)	EE 200		3	Required
CHM 151	CHEM 139	C5	4	Required	PHY 251	PHYS 230	C5	4	Required
ACA 122	USI 130 and ENGR 199		1	Required	Humanities/ Fine Arts Elective	Humanities/ Fine Arts	P4/P5	3	
EGR 210	Lower Level Technical Elective		2						
Total Credit Hours			16		Total Credit Hours			17	

*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.

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
EGR 212 (Other Hrs/ Tech Elective)	EE 221		3	Required	No CC equivalent (see note g)	EE 202		3	Required
EGR 215 (Other Hrs/ Tech Elective)	EE 201		3	Required	No CC equivalent (see note g)	EE 212		1	Required
EGR 216* (Other Hrs/ Tech Elective)	EE 211		1	Required	COM 231	COMM 201	C3	3	
PHY 252	PHYS 231	C5	3	Required	ECON 251 (Social/ Behav Sciences)	ECON 231	P1	3	
MAT 273	MATH 256	C2	4	Required	Social/Behavioral Sciences Elective	History	P3	3	

Suggested Course Sequence to transfer from NCCCS

					MAT 285 (Other Hours/ Elective)	MATH 320	C2	4	Required
Total Credit Hours					14	Total Credit Hours			17

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

5th Semester				6th Semester			
Fall				Spring			
WCU Course	Course Title	Credit Hours	Notes	WCU Course	Course Title	Credit Hours	Notes
ENGR 200	Eng/Prac/Prin. II	3		ENGR 350	Eng/Prac/Prin. III	3	
EE 311	Systems and Electronics Lab	1		EE 312	E-M and Electronic Devices Lab	1	
EE321	Electromagnetic Fields	3		EE 322	Electromagnetic Waves	3	
EE 331	Fund. Electron. & Semicond.	3		EE 332	Electronics	3	
EE 351	Systems Analysis I.	3		ENGR 402	System Dynamics and	3	
Technical Elective/Minor (EE 451)	(Electric Power Systems)	3		Technical Elective/Minor (EE 452)	(Electric Machines and Drives)	3	
Total Credit Hours		16		Total Credit Hours		16	

Senior/Fourth Year (at WCU)**

7th Semester				8th Semester			
Fall				Spring			
WCU Course	Course Title	Credit Hours	Notes	WCU Course	Course Title	Credit Hours	Notes
ENGR 400	Engineering Capstone I	3		ENGR 450	Engineering Capstone II	3	
EE 411	Analog Communication Systems	3		EE 424	Digital Signal Processing	3	
EE 421	Digital System Design	3		EE 413	Systems	3	
Technical Elective/Minor (EE 471)	(Power Electronics: Design and Analysis)	3		Technical Elective/Minor (EE 472)	(Advanced Power Electronics and Drives)	3	
MATH 370	Probability and Statistics	3		PHYS 310	Modern Physics	3	
Total Credit Hours		15		Total Credit Hours		15	

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.

Suggested Course Sequence to transfer from NCCCS

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. The recommended minor is Electrical Power Engineering.

d. Unless specified a technical elective is 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. Technical elective courses specified in parenthesis (EE 4xx) are required if the student wishes to minor in Electrical Power Engineering.

e. EE courses at WCU are offered once per year, in the semester shown above.

f. Inclusion of a 3 credit hour MATH course 250 or higher excepting MATH 301, 331, 321, and 322 as a technical elective, students following the above-listed sequence will qualify for a Math minor at WCU.

g. There is no articulated CC equivalent to WCU EE 202 or EE 212, which are prerequisites for WCU EE 311, 321, 331, and 351. Equivalent courses from other institutions may be considered as substitutes. Online versions of the EE 202 and EE 212 may be available at WCU. Please check with the WCU SET Director if interested in pursuing either options.

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

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