Washington University in St. Louis
JAMES MCKELVEY SCHOOL OF ENGINEERING

Dual Degree Engineering Program

Electrical Engineering Sample Curriculum

	WashU Course	Fall	Spring
Home Institution (3-4 years)			
Calculus II, III	Math 132, 233	3	3
Differential Equations	Math 217	3	
Linear Algebra strongly recommended	Math 309		3
General Physics I, II	Physics 191, 192	3	3
General Physics Lab I, II	Physics 191L, 192L	1	1
General Chemistry I	Chem 111A	3	
General Chemistry Laboratory I	Chem 151	2	
Introduction to Computer Science (MATLAB also helpful)	CSE 131	3	
English Composition	CWP 100		3
Engineering and science breadth electives*		3	6
Humanities and social science electives**		9	9
Additional home institution degree requirements		varies	varies
90 units or more of transferable college credit	**Subtotal**	**90+ to transfer**	
First Year of Dual Degree Curriculum at WashU Numbers in **bold** denote courses typically offered in both fall and spring semesters			
Applied Linear Algebra for Engineers	ESE 2180	3	
Introduction to Electrical and Electronic Circuits	ESE 230	4	
Introduction to Digital Logic and Computer Design	**ESE 260**	3	
Probability and Statistics for Engineering	**ESE 326**	3	
Engineering Ethics and Sustainability	**ENGR 4501**	1	
Applied Vector Calculus and Dynamics for Engineers	ESE 2190		3
Introduction to Engineering Design	ESE 205		3
Introduction to Electronic Circuits	ESE 232		3
Signals and Systems	ESE 351		3
Technical Writing	**ENGR 310**		3
	Subtotal	**14**	**15**
Second Year of Dual Degree Curriculum at WashU			
Engineering Electromagnetics Fundamentals	ESE 330	3	
Electrical Engineering electives***	ESE XXX**	9	6
Electrical Engineering laboratory	ESE XXX	3	3
Electrical Engineering Capstone Design Projects	**ESE 498**		3
Free electives*			4
	Subtotal	**15**	**16**
60 units or more must be taken at Washington Univ.	**Total**	**60+ for WU degree**	

*Nine non-EE units at level 200 or higher; eligible areas include biomedical engineering, chemical engineering, computer science and engineering, mechanical engineering, systems science and engineering, economics, mathematics, physics, biology, chemistry, earth and planetary sciences, and pre-medicine.

**The WashU degree requires 3 H/SS credits at level 300 or higher. If these credits are not taken at the home institution, the requirement can be satisfied at WashU with ENGR 4501 (required for EE) + ENGR 4502 + ENGR 4503.

***In selecting elective courses, make sure to select enough courses with engineering topics units so that engineering topics units total at least 45.

Master's degree candidates should consult with their faculty advisor regarding graduate courses taken third year.
Note some graduate courses may be necessary second year. 84 minimum WashU residency units are required for the Master's degree.

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