

Mechanical 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	
General Physics I, II	Physics 191/191L and 192/192L	4	4
General Chemistry I with Lab	Chem 111A/152	5	
Introduction to Computer Science	CSE 131		3
English Composition	CWP 100		3
Physical or life science elective*		3	
Humanities and social science electives		9	6
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			
Computer Aided Design	MEMS 202	2	
Statics and Mechanics of Materials	MEMS 253	3	
Dynamics	MEMS 255	3	
Thermodynamics	MEMS 301	3	
Fluid Mechanics	MEMS 3410	3	
Engineering Math B	ESE 319	3	
Machine Shop Practicum	MEMS 1001		1
Numerical Methods and Matrix Algebra or EnMath A	MEMS 201 or ESE 318		3
Mechanics and Materials Science Lab	MEMS 205		2
Machine Elements	MEMS 3110		3
Heat Transfer	MEMS 3420		3
Solid Mechanics	MEMS 350		3
Materials Science	MEMS 3610		3
	Subtotal	17	18
Second Year of Dual Degree Curriculum at WashU			
Vibrations Lab	MEMS 4050	1	
Mechanical Engineering Design Project	MEMS 411	3	
Dynamics and Vibration	MEMS 4310	3	
Introduction to Circuits	ESE 230	4	
Technical Writing	ENGR 310	3	
Ethics and Sustainability	ENGR 4501	1	
Leadership and Team Building, Conflict Management	ENGR 4502, 4503	1	1
MEMS electives (transfer courses may apply)	See approved list	3	6
Fluid and Thermal Science Lab	MEMS 305		2
Design of Thermal Systems	MEMS 412		3
Modeling Simulation and Control	MEMS 4301		3
Engineering Statistics with Probability	ENGR 328		3
	Subtotal	19	18
60 units or more must be taken at Washington Univ.	Total	60+ for WU degree	

*A 3-unit course at level 200 or higher from biology, chemistry, earth and planetary sciences, environmental studies, or physics.

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.