

Engineering Science Major (B.S.) Checklist (rev Fall 2021)

Course(s)	Suggested Year	Done	Need
Prerequisite Courses			
* MATH 121 Calculus I	FR		
* MATH 122 Calculus II	FR		
Basic Math & Science Courses (5.5 units)			
PHYS 190 Physics & Engineering Colloquium	FR		
PHYS 201 Newtonian Mechanics	FR		
PHYS 202 Electricity and Magnetism	SO		
PHYS 203 Atomic, Molecular, & Optical Physics	SO		
PHYS 270 Math Methods for Physics	SO		
CPSC 120 Programming	FR/SO		
Engineering Topics (8.5 units)			
ENGS 191 Engineering Foundations	FR		
ENGS 192 Engineering Analysis	FR		
ENGS 200 Engineering Design Exploration (0.5 unit)	SO		
ENGS 301 Statics & Material Testing	SO/JR/SR		
ENGS 302 Electronics & Robotics Principles	SO/JR/SR		
ENGS 303 Heat & Mass Transfer	SO/JR/SR		
ENGS 304 Fluid Mechanics	SO/JR/SR		
ENGS 490 Design Capstone I	SR		
ENGS 491 Design Capstone II	SR		
Focusing Area (2 units from same area)			
Materials Focus	PHYS 250 Introduction to Nanomaterials	SO/JR/SR	
Materials Focus	PHYS 450 Physics of Materials	JR/SR	
or		or	
Robotics Focus	CPSC 250 Data Structures (CPSC 170 is prereq)	SO/JR/SR	
Robotics Focus	CPSC 363 Robotics	JR/SR	
or		or	
Mechanics Focus	ENGS 330 Dynamics	JR/SR	
Mechanics Focus	PHYS 299/499 Special Topics (with approval)	JR/SR	

* Note that MATH 121 and MATH 122 are prerequisites for PHYS 201 and PHYS 202 but do not count as part of the engineering science major itself.

Note that this check sheet is intended as a guide; the Academic Catalog contains more details and nuances, and students are encouraged to check that book along with the academic advisors as needed.