

**Engineering Science Major (B.A.) Checklist (rev Fall 2021)**

Course(s)	Suggested Year	Done	Need
<b>Prerequisite Courses</b>			
* MATH 121 Calculus I	FR		
* MATH 122 Calculus II	FR		
<b>Basic Science Courses (2.5 units)</b>			
PHYS 190 Physics & Engineering Colloquium	FR		
PHYS 201 Newtonian Mechanics	FR		
PHYS 202 Electricity and Magnetism	SO		
<b>Engineering Core (3.5 units)</b>			
ENGS 191 Engineering Foundations	FR		
ENGS 192 Engineering Analysis	FR		
ENGS 200 Engineering Design Exploration (0.5 unit)	SO		
ENGS 490 Design Capstone I	SR		
<b>Engineering Topics (2 units chosen from)</b>			
ENGS 301 Statics & Materials Testing ENGS 302 Electronics & Robotics Principles ENGS 303 Heat & Mass Transfer ENGS 304 Fluid Mechanics	JR/SR		
<b>Focusing Area (3 units from same area)</b>			
Chemistry Focus	CHEM 112/118 Gen Chem II (CHEM 111/117 prereq)	SO	
Chemistry Focus	CHEM 221 Organic Chemistry I	JR/SR	
Chemistry Focus	CHEM 260 Descriptive Inorganic Chemistry	JR/SR	
or		or	
Environment Focus	ENSC 101 Environmental Science	SO	
Environment Focus	ENSC 230 Critical Zone Science	JR/SR	
Environment Focus	ENSC 270 Geographic Information Systems	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.