

B.S. Chemical Engineering Curriculum – Biotechnology Concentration

Fall Semester

Spring Semester

First Year

APMA 1110	Single Variable Calculus II ^(a)	APMA 2120	Multivariable Calculus III
CHEM 1410	General Chemistry I	CHEM 1420	General Chemistry II
CHEM 1411	General Chemistry I: Lab	CHEM 1421	General Chemistry II: Lab
ENGR 1624	Intro. to Engineering & Lab	PHYS 1425	Gen. Physics I: Mechanics, Thermo.
STS 1500	Engineering, Technol. & Society	PHYS 1429	Gen. Physics I: Workshop
		CS 111X	Intro. to Programming
		HSS Elective	

Second Year

APMA 2130	Differential Equations	APMA 3110	Applied Probability & Statistics
CHE 2215	Material & Energy Balances	CHE 2202	Thermodynamics
CHE 2246	Intro. to Biotechnology	CHE 2216	Modeling & Simulation in ChE
CHEM 2410	Organic Chemistry I	CHEM 2420	Organic Chemistry II
PHYS 2415	Gen. Physics II: Elect. & Mag., Optics	STS 2XXX or 3XXX Elective ^(b)	
PHYS 2419	Gen. Physics II: Workshop		

Third Year

CHE 3316	Chemical Thermo. & Unit Ops.	CHE 3318	Chemical Reaction Engineering
CHE 3321	Transport Processes I	CHE 3322	Transport Processes II
CHEM 3610	Physical Chemistry	CHE 3398	Chemical Engineering Lab I
CHEM 2411	Organic Chemistry Lab	CHE 3347	Biochemical Engineering
HSS Elective		HSS Elective	

Fourth Year

CHE 4474	Process Syn., Modeling & Control	CHE 4476	Chemical Engineering Design
CHE 4475	Intro. to Process Safety	CHE 4456	Bioprocess & Bioproduct Engineering
CHE 4491	Chemical Engineering Lab II	STS 4600	STS & Engineering Practice
CHE 4448	Bioseparation Engineering	Unrestricted Elective	
STS 4500	STS & Engineering Practice	Unrestricted Elective	
Unrestricted Elective			

^(a) **APMA 1110:** Students starting with APMA1090 should consult with their academic advisor as soon as possible.

^(b) **STS 2XXX or 3XXX:** Also satisfied by any course that meets the Second Writing Requirement, as specified by the College of Arts & Sciences (CLAS).

Note: The information contained in this document is for informational purposes only. The Undergraduate Record represents the official repository for academic program requirements: <http://records.ureg.virginia.edu/>