

Chemistry Nanotechnology (BS)

The following course sequence sheet is for illustrative purposes only and should not be construed as formal academic advisement. Course selections and sequence may vary depending on course availability and counsel from your academic adviser. You should consult an academic adviser before developing an actual academic plan.

Cr.	First Semester	Cr.	Second Semester
4	CHEM.115 Chemistry for the Sciences 1	4	CHEM.116 Chemistry for the Sciences 2
3	MATH.125 Calculus I	3	MATH.126 Calculus II
3	Group A (Humanities) 1 of 4	3	ENGLISH.101 Composition 1
1	INTSTUDY.100 University Seminar	3	Group A (Humanities) 2 of 4/ Diversity 2 of 2
3	Group B (Social Sciences) 1 of 4/Diversity 1 of 2	3	Values/Ethics/Responsibility
14	Total Semester Credits	16	Total Semester Credits
Cr.	Third Semester	Cr.	Fourth Semester
4	CHEM.231 Organic Chemistry I	4	CHEM.232 Organic Chemistry II
3	MATH.225 Calculus III	3	CHEM.251 Inorganic Chemistry
4	PHYSICS.211 General Physics I	1	CHEM.281 Introduction to Scientific Literature
3	INTSTUDY.231 Technical Writing	4	PHYSICS.212 General Physics II
14	Total Semester Credits	3	Free Elective
		15	Total Semester Credits
Cr.	Fifth Semester	Cr.	Sixth Semester
4	CHEM.361 Physical Chemistry I		GENTRANS.403 Nanotechnology Practicum* at PSU
3	CHEM.321 Analytical Chemistry	3	E SC 211 Material Safety, & Equipment Overview
1	Fitness 1 of 2	3	E SC 212 Basic Nanotechnology Processes
3	Communication		GENTRANS.406 Nanotechnology Practicum* at PSU
3	Group B (Social Sciences) 2 of 4	3	E SC 213 Materials in Nanotechnology
		3	E SC 214 Lithography for Nanotechnology
			GENTRANS.408 Nanotechnology Practicum* at PSU
		3	E SC 215 Materials Modification in Nanotechnology
		3	E SC 216 Charact/Testing of Nano Struct. & Materials
14	Total Semester Credits	18	Total Semester Credits
Cr.	Seventh Semester	Cr.	Eighth Semester
4	Chemistry Elective**1,2,3 1 of 2 or Free	3	Chemistry Elective**1,2,3 1 of 2 or Free Elective

Elective	
3 Chemistry Elective**1,2,3 2 of 2 or Free Elective	3 Chemistry Elective**1,2,3 2 of 2 or Free Elective
3 Group A (Humanities) 3 of 4	3 Group A (Humanities) 4 of 4
3 Group B (Social Sciences) 3 of 4	3 Group B (Social Sciences) 4 of 4
1 Fitness 2 of 2	3 Free Elective
14 Total Semester Credits	15 Total Semester Credits
Total credits 120	

* Nanotechnology Practicum

A 2.0 GPA in each of the following: CHEM.115, CHEM.116, CHEM.231, CHEM.232, CHEM.321, and CHEM.361 is required.

Though it is suggested that the one semester residence at PSU's Center for Nanotechnology Education and Utilization (CNEU) be taken the 6th semester, alternatively, it can be taken the summer between the 6th & 7th semesters or during the 7th or 8th semester. Taking the Nanotechnology Practicum during the summer allows for flexibility in graduation. Please discuss the options with your advisor.

** Chemistry Electives

1 Spring Only: CHEM.332, CHEM.333, CHEM.362, CHEM.371, CHEM.482 2 Fall Only: CHEM.452
3 Fall or Spring: CHEM.341, CHEM.492

Note- Humanity, Social Sciences, Communication, Diversity, Values/Eth/Resp. electives may be interchanged with respect to when taken.

All students must take the following:

12 credits Humanities & the Arts (Group A)

12 credits Social & Behavioral Sciences (Group B)

12 credits Natural Sciences & Mathematics (Group C)

Chemistry majors fulfill the 12 credit Group C requirement and do not need to take any extra credits in this area unless they choose to as an elective

2 credits Fitness & Recreational Skills

6 credits Diversity (may double count in other groups)