

MATERIALS CHEMISTRY MAJOR (MATCHEM.BS)

<u>Required Courses</u>	<u>Hrs.</u>	<u>Prereq.</u>	<u>Rec.Yr.</u>
CHEM 161 Acc Gen Chem for Science Majors	3	HS Chem & placement or CHEM 105, 107L; Coreq CHEM 163L	Fr
CHEM 163L Acc Gen Chem for Science Maj Lab	1	HS Chem & placement or CHE 105, 107L; Coreq CHEM 161	
<u>OR</u>			
CHEM 131 Gen Chemistry for Sci Majors I	3	Coreq CHEM 133L	Fr
<i>*Prerequisite: Must have passed at least one year of high school chemistry or one semester of college chemistry equivalent to CHEM 105/107L or above AND at least one of the following: MATH ACT score of 20, MATH SAT score of 500, grade of C or better in one of the classes: MATH 103, 110, 112, 115, 130, 161.</i>			
CHEM 133L Gen Chemistry for Sci Maj I Lab	1	Coreq CHEM 131	
CHEM 132 Gen Chemistry for Sci Majors II	3	C- or better in CHEM 131, 133L; Coreq CHEM 134L	Fr
CHEM 134L Gen Chemistry for Sci Maj II Lab	1	Coreq CHEM 132	
CHEM 221 Organic Chemistry I	3	C- or better in CHEM 131, 133L, 132, 134L or 161, 163L; Coreq CHEM 223L	Soph
CHEM 223L Organic Chemistry I Lab	1	C- or better in CHEM 131, 133L, 132, 134L or 161, 163L; Coreq CHEM 221	Soph
CHEM 222 Organic Chemistry II	3	C- or better in CHEM 221, 223L; Coreq 224L	Soph
CHEM 224L Organic Chemistry II Lab	1	C- or better in CHEM 221, 223L; Coreq CHEM 222	Soph
CHEM 231 Analytical Chemistry	3	C- or better in CHEM 131, 133L, 132, 134L or 161, 163L; Coreq 233L	Soph
CHEM 233L Analytical Chemistry Lab	1	C- or better in CHEM 131, 133L, 132, 134L or 161, 163L; Coreq CHEM 231	Soph
CHEM 301 Laboratory Safety Management	1	CHEM 222, 224L	Jr
CHEM 320 Physical Chemistry	3	C- or better in CHEM 231, 233L, MATH 161 or 162; Coreq CHEM 322L	Jr
CHEM 322L Physical Chemistry Lab	1	C- or better in CHEM 231, 233L, MATH 161 or 162; Coreq CHEM 320	Jr
CHEM 340 Advanced Inorganic Chemistry	3	C- or better in CHEM 222, 224L, 231, 233L Coreq CHEM 341L	Jr
<u>OR</u>			
CHEM 350 Biochemistry	3	C- or better in CHEM 222, 224L	Jr
CHEM 365 Adv Physical Chemistry	3	C- or better in CHEM 320, 322L, MATH 162	Jr
CHEM 370 Advanced Chemistry Topics	2	CHEM 222, 224L, 231, 233L	Jr
CHEM 397/399 Summer Research or Research	0-2	CHEM 221, 223L, 231, 233L	Jr
CHEM 401 Final Year Portfolio Showcase	1	Coreq CHEM 497	Sr
^CHEM 497 Seminar	2	Sr Standing	Sr
MATH 115 Elementary Statistics	3		Fr
MATH 161 Calculus I	4	C or better in MATH 130 or placement	Fr
MATH 162 Calculus II	4	C (2.0) or better in MATH 161;	Fr
PHYS 151/151L General Physics I + lab	3/1	Official math placement	
<u>OR</u>			
PHYS 161/151L General Physics w/Calc + lab	3/1	Pre or Coreq MATH 161	Fr/Soph
PHYS 152/152L General Physics II + lab	3/1	Official math placement	Fr/Soph
<u>OR</u>			
PHYS 162/152L General Physics II w/Calc + lab	3/1	Pre or Coreq MATH 161	
PHYS 320 Materials Science	3	PHYS 210; Coreq PHYS 321L	Jr
PHYS 321L Materials Science Lab	1	Coreq PHYS 320	
PHYS 330 Solid State Physics	3	PHYS 210; MATH 162	Jr
PHYS 331L Solid State Physics Lab	1	Coreq PHYS 330	

59-66 total hours

****REMINDERS****

1. Departmentally approved substitutes may be taken in place of certain labs.
2. CHEM 105-106 and labs do not count toward a major or minor in Chemistry.
3. Students cannot receive credit for both PHYS 151 and PHYS 161 or PHYS 152 and PHYS 162.

^Satisfies advanced writing requirement

NAME: _____

B.S. Degree: Materials Chemistry Major (for students entering in Fall 2026/Spring 2027)

In the "WHAT" column, enter the specific course number when applicable--e.g. HIST 121. In the "WHEN" column, enter the term and year in which the requirement is satisfied--e.g., sp '20.

Liberal Arts Core	
WHAT	WHEN
_____	ENGL 101* w/ C (2.0) [3 hrs]
_____	ENGL 110 w/ C (2.0)* [3 hrs]
_____	COMM 211 w/ C (2.0) [3 hrs]
_____	Dept senior seminar/writing course
_____	Met by: _____ CHEM 497 [2 hrs]
_____	FYEX 101 [3 hrs]
_____	FYEX 102 [1 hr]
_____	FYEX 103/104/105/106/107 [1 hr]
_____	FYEX 103/104/105/106/107 [1 hr]
_____	Foundational Scientific Inquiry [3-4 hrs]
_____	Foundational Quantitative Analysis [3-4 hrs]
_____	Foundational Humanities & Liberal Arts [3 hrs]

No more than two lens courses may come from same departmental prefix and one lens must be taken at 300 level or abov.

_____	_____	Ethical/Spiritual Explor Lens (ETSP) [3 hrs]
_____	_____	Aesthetic Expression Lens (AEXP) [3 hrs]
_____	_____	Per & Soc Well Being Lens (PSWB) [3 hrs]
_____	_____	Cultural Perspectives Lens (CEXP) [3 hrs]
_____	_____	Experimental Inquiry Lens (EXIN) [3 hrs]

39 - 41 Total semester hours

_____ 120 semester hours required for graduation

*Enter NA (not applicable) if waived upon admission

➤ Only six hours of any minor may overlap with the required credit hours of a student's chosen major. The overlap constraint is not applicable to courses that majors or minors MUST take in others departments.

For students classified as transfers, FYEX course requirements are dependent upon total transferrable credit hours.

Materials Chemistry (B.S.)	
WHAT	WHEN
_____	CHEM 161 [3 hrs]
_____	CHEM 163L [1 hr]
_____	OR
_____	CHEM 131 [3 hrs]
_____	CHEM 133L [1 hr]
_____	CHEM 132 [3 hrs]
_____	CHEM 134L [1 hr]
_____	CHEM 221 [3 hrs]
_____	CHEM 223L [1 hr]
_____	CHEM 222 [3 hrs]
_____	CHEM 224L [1 hr]
_____	CHEM 231 [3 hrs]
_____	CHEM 233L [1 hr]
_____	CHEM 301 [1 hr]
_____	CHEM 320 [3 hrs]
_____	CHEM 322L [1 hr]
_____	CHEM 340/350 [3 hrs]
_____	CHEM 365 [3 hrs]
_____	CHEM 370 [2 hrs]
_____	CHEM 397/399 [0-2 hrs]
_____	CHEM 401 [1 hr]
_____	CHEM 497 [2 hrs]
_____	MATH 115 [3 hrs]
_____	MATH 161 [4 hrs]
_____	MATH 162 [4 hrs]
_____	PHYS 151+151L/161+151L [4 hrs]
_____	PHYS 152/+152L/162+152L [4 hrs]
_____	PHYS 320 [3 hrs]
_____	PHYS 321L [1 hr]
_____	PHYS 330 [3 hrs]
_____	PHYS 331L [1 hr]
_____	59-66 semester hours

➤Departmentally approved substitutes may be taken in place of certain laboratories.

➤Students enrolled in a course for which there is a lab must also enroll in the lab or its approved substitute, except with approval of the department.

➤Except in specifically approved majors, a maximum of 52 hours in an academic discipline may count toward graduation. Three hours over the limit may count to accommodate an internship in the discipline.

➤The following limits apply when counting hours applicable toward the 120 required for graduation: 4 hours of physical activity (EXSC) and 8 hrs of MUSC 149.