BACHELOR OF SCIENCE IN CHEMISTRY AND MASTER OF SCIENCE IN MATERIALS SCIENCE - FIVE-YEAR DUAL DEGREE

Summary of Graduation Requirements

Subject Area	Credits
General Education Core (https://catalog.nsu.edu/undergraduate/academic-information/general-education-core-program/)	34
Major Requirements	78
Electives	9
Other Requirements	29
Total Credit Hours	**150**

Chemistry Curriculum

Course	Title	Credits
First Year		
SEM 101 & SEM 102	Spartan Seminar 101 and Spartan Seminar 102	2
CHM 223A & CHM 221L	General Chemistry I and General Chemistry I Laboratory [1]	5
CHM 224A & CHM 222L	General Chemistry II and General Chemistry II Laboratory	5
CSC 170	Computer Programming I	3
CSC 170L	Computer Programming I Laboratory	1
ENG 101	College English I	3
ENG 102	College English II	3
HED 100	Personal and Community Health	2
MTH 153	College Algebra & Trigonometry	3
MTH 184	Calculus I	4
PED 100	Fundamentals of Fitness for Life	1
	Credits	**32**
Second Year		
SEM 201	Spartan Seminar 201	1
ENG 285	Public Speaking	3
CHM 321 & 321L	Organic Chemistry I and Organic Chemistry I Laboratory	5
CHM 322 & 322L	Organic Chemistry II and Organic Chemistry II Laboratory	5
CHM 331 & 331L	Analytical Chemistry I and Analytical Chemistry I Laboratory	5
MTH 251	Calculus II	4
MTH 252	Calculus III	4
PHY 160 & 160L	University Physics I and University Physics Laboratory I	5
PHY 161 & 161L	University Physics II and University Physics Laboratory II	5
	Credits	**37**
Third Year		
Select one of the following History from the Core:		3
HIS 100	History of World Societies I	
HIS 101	History of World Societies II	
HIS 102	United States History to 1865	
HIS 103	United States History Since 1865	
Select one of the following Humanities from the Core:		3
HUM 210	Humanities	
HUM 211	Humanities	
ENG 383	African American Literature	
MUS 234	African American Music	
CHM 332 & 332L	Analytical Chemistry II and Analytical Chemistry II Laboratory	5
CHM 361	Physical Chemistry I	3
CHM 362	Physical Chemistry II	3
CHM 363L	Physical Chemistry Laboratory	2
CHM 345	Math Methods/Logic for Physical Science	3
MTH 372	Differential Equations	3
SOC 101	Introduction to the Social Sciences	3
	Credits	**28**
Fourth Year		
Select one of the following Cultural Elective from the Core:		3
HIS 335	African American History	
HIS 336	African American History Since 1865	
HIS 370	Early African History/Cultures to 1600	
HIS 371	African History/Cultures 1600-PRESENT	
HIS 377	Black Leaders, Then and Now	
ENG 383	African American Literature	
PSY 340	Psychology of the African American	
SOC 237	Racial & Ethnic Minorities	
POS 315	African American Politics	
MUS 234	African American Music	
Select one of the following Humanities from the Core:		3
HUM 210	Humanities	
HUM 211	Humanities	
ENG 383	African American Literature	
MUS 234	African American Music	
Select one of the following Electives:		3
CHM 431	Biochemistry I	
CHM 432	Biochemistry II	
CHM 431L	Biochemistry I Laboratory	
CHM 432L	Biochemistry II Laboratory	
CHM 481	Special Topics in Chemistry	
CHM 397	Introduction to Research	
CHM 398	Introduction to Research	
CHM 497	Introduction to Research	
CHM 498	Introduction to Research	
CHM 451	Chemistry Seminar I	1
CHM 473	Advanced Inorganic Chemistry	3
CHM 545	Mathematical Method	3
MSE 530	Materials Science	3

BIO 110 & 110L	General Biology and General Biology Laboratory	4
PHY 356	Heat and Thermodynamics	3
PHY 580	Quantum Mechanics for Material Science	3
	Credits	**29**
	Total Credits	**126**

[1] May be taken during the freshman year upon the approval of the advisor.

Materials Science Curriculum

Course	Title	Credits
Summer		
MSE 697	Research I	1-9
	Credits	**1-9**
Fifth Year		
MSE 533	Polymers/Composites	3
MSE 535	Electronic and Optic Material	3
MSE 575	Basic Instrumentation for Material Sci	3
MATS 799	Thesis	3
Select three of the following Technical Electives:		9
CHM 573	Advanced Inorganic Chemistry	
CHM 633	Molecular Dynamics	
CHM 663	Atomic/ Molecular Spectroscopy	
PHY 653	Solid State Physics	
PHY 675	Electricity and Magnetism	
MATS 610	Special Topics	
	Credits	**21**
	Total Credits	**22-30**