

| SCHOOL OF SCIENCE AND TECHNOLOGY | | | |
|--|---|------------|------------------------------|
| Degree: BACHELOR OF SCIENCE Credits: 120 | | CURRICULUM | |
| Program: CHEMISTRY | | | |
| <p>Description: The chemistry program prepares students in the analysis and solution of chemical problems. Alumni receive training in the core areas of chemistry with emphasis in academic research. Courses are aligned to the requirements of the American Chemical Society (ACS). Alumni will be able to work at industry, research laboratories, governmental agencies, forensic laboratories and other chemistry-related scenarios.</p> | | | |
| Course Code | Course Title | Credits | Requisites |
| General Education Courses | | | |
| ENGL 152 | Fundamental of Reading and Writing | 3 | Placement test |
| ENGL 153 | Advanced Communicative English | 3 | Placement test |
| ENGL 231 | Research and Writing | 3 | ENGL 153 |
| HUMA 111 | Civilizations and Universal Culture II | 3 | |
| HUMA 112 | Civilizations and Universal Culture II | 3 | HUMA 111 |
| MATH 152 | Pre-Calculus II | 4 | Placement test or MATH 151 |
| MATH 152L | Pre-Calculus II Laboratory | 0 | Placement test or MATH 151L |
| FSST 105 | Freshmen Seminar | 3 | |
| GESC 107 | Introduction to Computers | 3 | |
| SOSC 111 | Individual, Community, Government and Social Responsibility I | 3 | |
| SPAN 152 | Fundamentals of Reading and Writing | 3 | |
| SPAN 250 | Writing Techniques | 3 | SPAN 152 |
| SPAN 255 | Research and Writing | 3 | SPAN 250 |
| | | 37 | |
| Core Courses | | | |
| BIOL 203 | General Biology I | 3 | Co-req. MATH 152 y BIOL 203L |
| BIOL 203L | General Biology I Laboratory | 1 | Co-req. BIOL 203 |
| BIOL 204 | General Biology II | 3 | BIOL 203, 203L, Co-req. 204L |
| BIOL 204L | General Biology II Laboratory | 1 | BIOL 203, 203L Co-req. 204 |
| PHSC 203 | General Physics I | 3 | MATH 221, Co-req. PHSC 203L |
| PHSC 203L | General Physics I Laboratory | 1 | Co-req. PHSC 203 |
| PHSC 204 | General Physics II | 3 | PHSC 203, Co-req. PHSC 204L |
| PHSC 204L | General Physics II Laboratory | 1 | Co-req. PHSC 204 |
| PHSC 359 | Modern Physics | 3 | PHSC 204, MATH 222 |
| PHSC 359L | Modern Physics Laboratory | 1 | Co-req. PHSC 359 |
| MATH 221 | Calculus and Analytical Geometry I | 4 | MATH 152, Co-req. MATH 221L |
| MATH 221L | Calculus and Analytical Geometry I Laboratory | 0 | MATH 152L, Co-req. MATH 221 |
| MATH 222 | Calculus and Analytical Geometry II | 4 | MATH 221, Co-req. MATH 222L |
| MATH 222L | Calculus and Analytical Geometry II Laboratory | 0 | MATH 221L, Co-req. MATH 222 |
| MATH 223 | Calculus and Analytical Geometry III | 4 | MATH 222, Co-req. MATH 223L |
| MATH 223L | Calculus and Analytical Geometry III Laboratory | 0 | MATH 222L, Co-req. MATH 223 |
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| Course Code | Course Title | Credits | Requisites |
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| Concentration courses | | | |
| CHEM 203 | General Chemistry I | 4 | Co-req. Math 152, CHEM 203L |
| CHEM 203L | General Chemistry I Laboratory | 0 | Co-req. CHEM 203 |
| CHEM 204 | General Chemistry II | 4 | CHEM 203, Co-req. CHEM 204L |
| CHEM 204L | General Chemistry II Laboratory | 0 | CHEM 203L, Co-req. CHEM 204 |
| CHEM 221 | Analytical Chemistry | 3 | CHEM 204, MATH 152, Co-req. 221L |
| CHEM 221L | Analytical Chemistry Laboratory | 1 | Co-req. CHEM 221 |
| CHEM 311 | Descriptive Inorganic Chemistry | 3 | CHEM 204, MATH 221, Co-req. CHEM 311L |
| CHEM 311L | Descriptive Inorganic Chemistry Laboratory | 1 | Co-req. CHEM 311 |
| CHEM 351 | Organic Chemistry I | 3 | CHEM 204, MATH 152, Co-req. CHEM 351L |
| CHEM 351L | Organic Chemistry I Laboratory | 1 | Co-req. CHEM 351 |
| CHEM 352 | Organic Chemistry II | 3 | CHEM 351, Co-req. CHEM 352L |
| CHEM 352L | Organic Chemistry II Laboratory | 1 | Co-req. CHEM 352 |
| CHEM 430 | Instrumental Chemistry | 3 | CHEM 221, MATH 221, Co-req. CHEM 430L |
| CHEM 430L | Instrumental Chemistry Laboratory | 1 | Co-req. CHEM 430 |
| CHEM 463 | Physical Chemistry I | 3 | CHEM 221, PHSC 204 Co-req. CHEM 463L |
| CHEM 463L | Physical Chemistry I Laboratory | 1 | Co-req. CHEM 463 |
| CHEM 464 | Physical Chemistry II | 3 | CHEM 463, Co-req. CHEM 464L |
| CHEM 464L | Physical Chemistry II Laboratory | 1 | CHEM 463L, Co-req. CHEM 464 |
| CHEM 390 | Spectroscopy | 3 | CHEM 221, CHEM 352 |
| CHEM 385 | Biochemistry | 3 | CHEM 352, BIOL 204 |
| CHEM 265 | Undergraduate Research | 3 | Authorization from the Chair |
| | | 45 | |
| Elective Courses (Select 6 credits from the list below) | | | |
| CHEM 411 | Inorganic Chemistry | 3 | CHEM 311, CHEM 464 |
| CHEM 451 | Organic Synthesis | 3 | CHEM 352 |
| CHEM 481 | Computational Chemistry | 3 | CHEM 204, |
| CHEM 485 | Electrochemistry | 3 | CHEM 221 |
| MATH 395 | Differential Equations | 3 | MATH 222 |
| ENCH 358 | Environmental Chemistry I | 3 | CHEM 352 |
| ENCH 359 | Environmental Chemistry II | 3 | ENCH 358 |
| ENCH 365 | Undergraduate Research in Environmental Chemistry I | 3 | CHEM 204 |
| CHEM 366 | Undergraduate Research in Chemistry II | 3 | CHEM 365 |
| CHEM 475 | Preparation for the Chemistry Profession | 3 | CHEM 464 |
| | | 6 | |

Minimum GPA of 2.30 in all concentration courses / Minimum graduation GPA of 2.00
Rev. 2014

| SCHOOL OF SCIENCE AND TECHNOLOGY | | | |
|---|--|----------------------|-----------------------------|
| Degree: BACHELOR OF SCIENCE | | PLAN OF STUDY | |
| Credits: 120 | | | |
| Program: CHEMISTRY | | | |
| Course Code | Course Title | Credits | Requisites |
| FIRST YEAR - FIRST SEMESTER | | | |
| MATH 152 | Pre-Calculus II | 4 | Placement test or MATH 151 |
| MATH 152L | Pre-Calculus II Laboratory | 0 | Placement test or MATH 151L |
| FSST 105 | Freshman Seminar | 3 | |
| ENGL 153 | Advanced Communicative English | 3 | Placement test or ENGL 152 |
| SPAN 152 | Fundamentals of Reading and Writing | 3 | Placement test |
| CHEM 203 | General Chemistry I | 4 | Co-req. MATH 152, CHEM 203L |
| CHEM 203L | General Chemistry I Laboratory | 0 | Co-req. CHEM 203 |
| | | 17 | |
| FIRST YEAR - SECOND SEMESTER | | | |
| MATH 221 | Calculus and Analytical Geometry I | 4 | MATH 152, Co-req. MATH 221L |
| MATH 221L | Calculus and Analytical Geometry I Laboratory | 0 | MATH 152L, Co-req. MATH 221 |
| GESC 107 | Introduction to Computers | 3 | |
| ENGL 231 | Research and Writing | 3 | ENGL 153 |
| SPAN 250 | Writing Techniques | 3 | SPAN 152 |
| CHEM 204 | General Chemistry II | 4 | CHEM 203, Co-req. CHEM 204L |
| CHEM 204L | General Chemistry II Laboratory | 0 | Co-req. CHEM 204 |
| | | 17 | |
| SECOND YEAR - FIRST SEMESTER | | | |
| CHEM 351 | Organic Chemistry I | 3 | CHEM 204, Co-req. CHEM 351L |
| CHEM 351L | Organic Chemistry I Laboratory | 1 | Co-req. CHEM 351 |
| MATH 222 | Calculus and Analytical Geometry II | 4 | MATH 221, Co-req. MATH 222L |
| MATH 222L | Calculus and Analytical Geometry II Laboratory | 0 | MATH 221L, Co-req. MATH 222 |
| PHSC 203 | Physics with Calculus I | 3 | MATH 221, Co-req. PHSC 203L |
| PHSC 203L | Physics with Calculus I Laboratory | 1 | Co-req. PHSC 203 |
| HUMA 111 | Civilizations and Universal Culture I | 3 | |
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| Course Code | Course Title | Credits | Requisites |
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| SECOND YEAR - SECOND SEMESTER | | | |
| CHEM 352 | Organic Chemistry II | 3 | CHEM 351, Co-req. CHEM 352L |
| CHEM 352L | Organic Chemistry II Laboratory | 1 | Co-req. CHEM 352 |
| MATH 223 | Calculus and Analytical Geometry III | 4 | MATH 222, Co-req. MATH 223L |
| MATH 223L | Calculus and Analytical Geometry III Laboratory | 0 | MATH 222L, Co-req. MATH 223 |
| PHSC 204 | Physics with Calculus II | 3 | PHSC 203, Co-req. PHSC 204L |
| PHSC 204L | Physics with Calculus II Laboratory | 1 | Co-req. PHSC 204 |
| HUMA 112 | Civilizations and Universal Culture II | 3 | HUMA 111 |
| | | 15 | |
| THIRD YEAR - FIRST SEMESTER | | | |
| CHEM 221 | Analytical Chemistry | 3 | CHEM 204, Co-req. CHEM 221L |
| CHEM 221L | Analytical Chemistry Laboratory | 1 | Co-req. CHEM 221 |
| SOSC 111 | Individual, Community, Government and Social Responsibility I | 3 | |
| SPAN 255 | Reading and Writing | 3 | SPAN 250 |
| CHEM 221 | Analytical Chemistry | 3 | CHEM 204, Co-req. CHEM 221L |
| BIOL 203 | General Biology I | 3 | Co-req. BIOL 203L |
| BIOL 203L | General Biology I Laboratory | 1 | Co-req. BIOL 203 |
| | | 14 | |
| THIRD YEAR - SECOND SEMESTER | | | |
| CHEM 430 | Instrumental Chemistry | 3 | CHEM 221, 221L, Co-req. 430L |
| CHEM 430L | Instrumental Chemistry Laboratory | 1 | Co-req. CHEM 430 |
| SOSC 112 | Individual, Community, Government And Social Responsibility II | 3 | |
| BIOL 204 | General Biology II | 3 | BIOL 203, Co-req. BIOL 204L |
| BIOL 204L | General Biology II Laboratory | 1 | Co-req. BIOL 204 |
| | | 11 | |
| FOURTH YEAR - FIRST SEMESTER | | | |
| PHSC 359 | Modern Physics | 3 | PHSC 204 , Co-req. PHSC 359L |
| PHSC 359L | Modern Physics Laboratory | 1 | Co-req. PHSC 359 |
| CHEM 463 | Physical Chemistry I | 3 | CHEM 221, PHSC 204, MATH 223 Co-req. CHEM 463L |
| CHEM 463L | Physical Chemistry I Laboratory | 1 | Co-req. CHEM 463 |
| CHEM 311 | Inorganic Chemistry | 3 | CHEM 204 Co-req. 311L, MATH 221 |
| CHEM 311L | Inorganic Chemistry Laboratory | 1 | Co-req. CHEM 311 |
| | Elective | 3 | |
| | | 15 | |

| Course Code | Course Title | Credits | Requisites |
|--------------------------------------|----------------------------------|-----------|------------------------------|
| FOURTH YEAR - SECOND SEMESTER | | | |
| CHEM 390 | Spectroscopy | 3 | CHEM 221, CHEM 352 |
| CHEM 385 | Biochemistry | 3 | CHEM 352, BIOL 204 |
| CHEM 464 | Physical Chemistry II | 3 | CHEM 463, Co-req. CHEM 464L |
| CHEM 464L | Physical Chemistry II Laboratory | 1 | Co-req. CHEM 464 |
| CHEM 365 | Undergraduate Research | 3 | Authorization from the Chair |
| | Elective | 3 | |
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