

Chemistry

Bachelor of Science (BS.CHEM)

| Core Requirements | | | | Credits | Notes/Instructions |
|-------------------------------------|----------------------------|---|--|-----------|---|
| College Sem. | Quest for Meaning | CSEM 100 | | 3 | †A student may be required to take ENGL 105 and/or MATH 100 based on placement exams administered prior to their first semester at King's College. ENGL 105 and MATH 100 are 3-credit courses and will count as free electives. †† The Intercultural Competence requirement can be satisfied by taking a 100-level language class for 3 credits or participating in an approved Study Abroad experience. SBM = Satisfied By Major requirement and credits listed below. |
| Communication & Creative Expression | Writing | ENGL 110† | | 3 | |
| | Oral Communication | COMM 101 | | 3 | |
| | Literature | ENGL 140-149 | | 3 | |
| | The Arts | ARTS 100-149 | | 3 | |
| Citizenship | History | HIST 100-149 | | 3 | |
| | Intercultural | FREN/GERM/SPAN 100-level or Study Abroad†† | | 3 | |
| | Global Connections | ECON 150-199; GEOG 150-199; HIST 150-199; PS 150-199; SOC 150-199 | | 3 | |
| Quantitative & Scientific Reasoning | SBM Quantitative Reasoning | MATH 120+ or higher level | | - | |
| | SBM Scientific Endeavor | NSCI 100 | | - | |
| | SBM Science in Context | NSCI 171-199 | | - | |
| | Human Beh. & Soc. Inst | ECON 111, 112; GEOG 101, 102; PS 101, PSYC 101, SOC 101 | | 3 | |
| Wisdom, Faith, & the Good Life | Introduction to Phil. | PHIL 101 | | 3 | |
| | Phil. Investigations | PHIL 170-199; MSB 287 | | 3 | |
| | Theology & Wisdom | THEO 150-159 | | 3 | |
| | Theology & the Good Life | THEO 160-169 | | 3 | |
| Total Core Credits | | | | 39 | |

| Major Requirements | Credits | Major Requirements | Credits | Electives ³ / Other Requirements | Credits |
|-------------------------------|---------|-------------------------------|---------|---|---------|
| CHEM 113 ² | 3 | CHEM 114 ^{PR} | 3 | HCE 101 Holy Cross Exp. | 1 |
| CHEM 113L | 1 | CHEM 114L ^{PR} | 1 | Free Elective | 3 |
| CHEM 241 ^{PR} | 3 | CHEM 242 ^{PR} | 3 | Free Elective | 3 |
| CHEM 241L ^{PR} | 1 | CHEM 242L ^{PR} | 1 | Free Elective | 3 |
| CHEM 243 ^{PR} | 3 | CHEM 244 ^{PR} | 3 | Free Elective | 3 |
| CHEM 243L ^{PR} | 2 | CHEM 244L ^{PR} | 2 | Free Elective | 3 |
| CHEM 357 ^{PR} | 3 | CHEM 358 ^{PR} | 3 | Free Elective | 1-3 |
| CHEM 357L ^{PR} | 2 | CHEM 358L ^{PR,*} | 2 | | |
| CHEM 351 ^{PR} | 1 | CHEM 471 ^{PR} | 3 | | |
| CHEM 493 ^{PR} | 1 | CHEM 494 ^{PR} | 1 | | |
| MATH 129 ² | 4 | MATH 130 ^{PR} | 4 | | |
| MATH 237 ^{PR} | 3 | MATH 238 ^{PR} | 3 | | |
| PHYS 113 ^{2,CR} | 3 | PHYS 114 ^{PR} | 3 | | |
| PHYS 113L | 1 | PHYS 114L ^{PR} | 1 | | |
| Total Major Credits 31 | | Total Major Credits 33 | | Total Major Credits 17-19 | |

Total Credits Required for Graduation = 120

Students who wish to be eligible for certification by the American Chemical Society must include:

| The four (4) courses below: | Credits | AND | One of the following 3 credit courses** | |
|-----------------------------|---------|-----|---|----------|
| CHEM 358L* | 2 | | CHEM 359 | CHEM 373 |
| CHEM 353*** | 3 | | CHEM 473 | CHEM 475 |
| CHEM 353L | 2 | | CHEM 476 | CHEM 477 |
| CHEM 471L | 2 | | CHEM 479 | CHEM 490 |

*CHEM 358L may be replaced by a semester of research (CHEM 396, CHEM 397, CHEM 496, CHEM 497), but must be taken for American Chemical Society certification

** Or any other CHEM course numbered 359 or higher approved by the chair-person of the Chemistry Department

***BIOL 353 may substitute for CHEM 353

General Information:

A student must earn a minimum of 120 credit hours to be awarded the baccalaureate degree. The number of credit hours required for graduation may be higher in certain major programs or if the student elects to pursue a second major. Beyond the requirements of the Core Curriculum and of a student's chosen major program, the balances of the credit hours required for graduation are "free electives."

See reverse side for a suggested sequence

Effective 07/01/21

Chemistry

Suggested Sequence

A suggested course sequence of degree requirements is listed below. Refer to the college catalog for course titles, descriptions, and prerequisites. Always consult your Academic Advisor when planning and scheduling your classes.

| Fall | | Credits | Spring | | Credits |
|--|--------------------------------------|----------------|----------------------------|---------------------------------------|--------------|
| CHEM 113 ² | General Chemistry I | 3 | CHEM 114 ^{PR} | General Chemistry II | 3 |
| CHEM 113L | General Chemistry I Lab | 1 | CHEM 114L ^{PR} | General Chemistry II Lab | 1 |
| MATH 129 ² | Analytic Geometry & Calculus I | 4 | MATH 130 ^{PR} | Analytic Geometry & Calculus II | 4 |
| PHYS 113 ^{2,CR} | Physics for Scientists & Engineers I | 3 | PHYS 114 ^{PR} | Physics for Scientists & Engineers II | 3 |
| PHYS 113L | Physics for Sci. & Eng. I Lab | 1 | PHYS 114L | Physics for Sci. & Eng. II Lab | 1 |
| Core Course ¹ | | 3 | Core Course ¹ | | 3 |
| HCE 101 | Holy Cross Experience | 1 | | | |
| | | 16 | | | 15 |
| Summer | | Credits | | | |
| | | | | | |
| Fall | | Credits | Spring | | Credits |
| CHEM 241 ^{PR} | Organic Chemistry I | 3 | CHEM 242 ^{PR} | Organic Chemistry II | 3 |
| CHEM 241L ^{PR} | Organic Chemistry I Lab | 1 | CHEM 242L ^{PR} | Organic Chemistry II Lab | 1 |
| CHEM 243 ^{PR} | Analytical Chemistry | 3 | CHEM 244 ^{PR} | Instrumental Analysis | 3 |
| CHEM 243L ^{PR} | Analytical Chemistry Lab | 2 | CHEM 244L ^{PR} | Instrumental Analysis Lab | 2 |
| MATH 238 ^{PR} | Differential Equations | 3 | MATH 237 ^{PR} | Math. Methods for the Phys. Sci. | 3 |
| Core Course ¹ | | 3 | Core Course ¹ | | 3 |
| | | 15 | | | 15 |
| Summer | | Credits | | | |
| | | | | | |
| Fall | | Credits | Spring | | Credits |
| CHEM 357 ^{PR} | Physical Chemistry I | 3 | CHEM 358 ^{PR} | Physical Chemistry II | 3 |
| CHEM 357L ^{PR} | Physical Chemistry I Lab | 2 | CHEM 358L ^{PR} | Physical Chemistry II Lab | 2 |
| CHEM 351 ^{PR} | Technological Competency | 1 | Core Course ¹ | | 3 |
| Core Course ¹ | | 3 | Core Course ¹ | | 3 |
| Core Course ¹ | | 3 | Free Elective ³ | | 3 |
| Free Elective ³ | | 3 | | | |
| | | 15 | | | 14 |
| Summer | | Credits | | | |
| | | | | | |
| Fall | | Credits | Spring | | Credits |
| CHEM 493 ^{PR} | Senior Colloquium I | 1 | CHEM 494 ^{PR} | Senior Colloquium II | 1 |
| CHEM 471 ^{PR} | Advanced Inorganic Chemistry | 3 | Core Course ¹ | | 3 |
| Core Course ¹ | | 3 | Core Course ¹ | | 3 |
| Core Course ¹ | | 3 | Free Elective ³ | | 3 |
| Core Course ¹ | | 3 | Free Elective ³ | | 3 |
| Free Elective ³ | | 3 | Free Elective ³ | | 1-3 |
| | | 16 | | | 16-18 |
| Total Credits Required for Graduation = 120 | | | | | |

NOTES:

¹Choose one course from each of the Core Requirements listed on the reverse side.

² Course may satisfy both a Major and a Core requirement. CHEM 113 and PHYS 113 will satisfy the Scientific Endeavor and Science in Context Core requirements. MATH 129 will satisfy the Quantitative Reasoning Core requirement.

³ Students may select "free electives" for personal enrichment **OR** for Minor and/or Second Major Requirements.

^{PR} Course has a prerequisite – check college catalog.

^{CR} Course has a co-requisite – check college catalog