**Chemistry BA Curriculum**, Catalog Year 2018 - current (Minimum: 180 total credits, 60 upper division credits)

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|  **Fall** | **Winter** | **Spring** |
| * USEM 101 University Seminar (4)
* *CH 195 Chemical Problem Solving***§** *(1)*
* CH 221 General Chemistry (3)
* CH 227 General Chemistry Lab (2)
* CH 227R General Chemistry Lab Recit. (0)
* MTH 111 Precalc I (4) or MTH 112 Precalc II (4) or MTH 251 Calc I (4) (math placement test)\*

**Total: 14 credits** | * USEM 102 University Seminar (4)
* CH 196 Chemical Problem Solving§ (1)
* CH 222 General Chemistry (3)
* CH 228 General Chemistry Lab (2)
* CH 228R General Chemistry Lab Recit. (0)
* MTH 112 Precalc II (4) *or* MTH 251 Calc I (4)

**Total: 14 credits** | * USEM 103 University Seminar (4)
* CH 197 Chemical Problem Solving§ (1)
* CH 223 General Chemistry (3)
* CH 229 General Chemistry Lab (2)
* CH 229R General Chemistry Lab Recit. (0)
* MTH 251 Calc I (4) *or* MTH 252 Calc II (4)

**Total: 14 credits** |
| * CH 334 Organic Chemistry (3)
* CH 344 Organic Chemistry Workshop§§ (1)
* CH 337 Intro to Organic Chemistry Lab (2)
* CH 337R Intro Organic Lab Recitation (0)
* BI 211 Principles of Biology (5)
* BI 211L Principles of Biology Lab (0)
* PH 201 General Physics I (3)
* PH 224 General Physics Lab I (2)

**Total: 16 credits** | * CH 335 Organic Chemistry (3)
* CH 345 Organic Chemistry Workshop§§ (1)
* CH 340 Organic Spectroscopy (3)
* CH 340L Organic Spectroscopy Lab (0)
* BI 212 Principles of Biology (5)
* BI 212L Principles of Biology Lab (0)
* PH 202 General Physics II (3)
* PH 225 General Physics Lab II (2)

**Total: 17 credits** | * CH 336 Organic Chemistry (3)
* CH 346 Organic Chemistry Workshop§§ (1)
* CH 341 Organic Chemistry Lab (2)
* CH 341R Intro Organic Lab Recitation (0)
* BI 213 Principles of Biology (5)
* BI 213L Principles of Biology Lab (0)
* PH 203 General Physics III (3)
* PH 226 General Physics Lab III (2)

**Total: 16 credits** |
| * CH 451 Biochemistry (3)
* BI 341 Genetics (4)
* BI 341L Genetics Lab (0)
* Foreign Language (4)\*\*
* GE Strand E/F/G Explorations (4)

**Total: 15 credits** | * CH 452 Biochemistry (3)
* GE Strand E/F/G Explorations (4)
* Foreign Language (4)\*\*
* Chemistry Laboratory Elective (1-2)\*\*\*

**Total: 12-13credits**  | * CH 453 Biochemistry (3)
* GE Strand E/F/G Explorations (4)
* Foreign Language (4)\*\*
* Chemistry Laboratory Elective (1-2)\*\*\*

**Total: 14-15 credits** |
| * CH 314 Chemical Research Communication (1)
* CH 441 Physical Chemistry (3)
* CH 421 Analytical Chemistry (3)
* Foreign Language (4)
* GE Strand H/I/J Integrations (4)

**Total: 15 credits** | * CH 315 Chemical Research Communication (1)
* CH 425 Instrumental (3)\_
* GE Strand H/I/J Integrations (4)
* Foreign Language (4)
* PSY 201 General Psychology (4)

**Total: 16 credits**  | * CH 316 Chemical Research Communication (1)
* GE Strand H/I/J Integrations (4)
* Foreign Language (4)
* PSY 202 General Psychology (4)

**Total: 13 credits** |

**§**Required for students co-enrolled in MTH 111, highly recommended for all other students

**§§**Highly recommended for all students

\*It is recommended that students starting with MTH 111 take MTH 252 (Calc II) during the summer of their first year.

\*\*Language requirement is at the second-year level. Placement tests may alleviate the first year of foreign language.

\*\*\*Students must take a minimum of two upper-division CH 375 or CH 4XX labs (terms vary depending on the lab courses selected). Students must meet the required

 prerequisites *and* enroll in the required corequisites for the lab courses selected.

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#### General Requirements

* Total Credits: 180 credits
* Upper Level Credits: 60 credits

#### Biology Courses

* BI 211 - Principles of Biology I
* BI 212 - Principles of Biology II
* BI 213 - Principles of Biology III
* BI 341 - Genetics

#### Chemistry Courses

* CH 221 - General Chemistry I
* CH 222 - General Chemistry II
* CH 223 - General Chemistry III
* CH 227 - General Chemistry Laboratory I
* CH 228 - General Chemistry Laboratory II
* CH 229 - General Chemistry Laboratory III
* CH 314 - Chemical Research Communication I
* CH 315 - Chemical Research Communication II
* CH 316 - Chemical Research Communication III
* CH 334 - Organic Chemistry
* CH 335 - Organic Chemistry
* CH 336 - Organic Chemistry
* CH 337 - Introduction to Organic Chemistry Lab
* CH 340 - Organic Spectroscopy
* CH 341 - Organic Chemistry Lab
* CH 421 - Analytical Chemistry
* CH 425 - Instrumental Analysis
* CH 441 - Physical Chemistry
* CH 451 - Biochemistry I
* CH 452 - Biochemistry II
* CH 453 - Biochemistry III

Choose 2 specified upper division chemistry labs

* CH 375 - Computational Methods for Scientists
* CH 422 - Analytical Chemistry Laboratory
* CH 426 - Instrumental Analysis Laboratory
* CH 427 - Advanced Instrumental Analysis Laboratory
* CH 454 - Biochemistry Laboratory I
* CH 455 - Biochemistry Laboratory II

#### Mathematics Courses

* MTH 251 - Calculus I
* MTH 252 - Calculus II

#### Physics Courses:

***Either:***

* PH 201 - General Physics I ***or*** PH 221 - General Physics I
* PH 202 - General Physics II ***or*** PH 222 - General Physics I
* PH 203 - General Physics III ***or*** PH 223 - General Physics I

***and***

* PH 224 - General Physics Laboratory I
* PH 225 - General Physics Laboratory II
* PH 226 - General Physics Laboratory III

#### Psychology

* PSY 201 - General Psychology
* PSY 202 - General Psychology

#### University Requirements

Foundations (A, B, &C)

* USEM 101 – University Seminar
* USEM 102 – University Seminar
* USEM 103 – University Seminar

Quantitative Reasoning (D)

* MATH 111 ***or*** MATH 112 ***or*** MTH 251

Humanities (E, 2 courses)

* Course 1:
* Course 2:

Social Sciences (F, 2 courses)

* Course 1:
* Course 2:

Science (G, 2 courses with lab)

* BI 211
* CH 221 & CH 227

Upper Division Integrations

* One Course: Citizenship and Social Responsibility Course

***or***

Science, Technology, and Society Course:

* One Course: Diversity and Global Awareness Course:
* BA Requirement (Foreign Language)

Note: A grade of C- or better in each course is required.

ASL 201, 202, & 203 or above (12 credits)

CHN 201, 202, & 203 or above (12 credits)

FR 201, 202, & 203 or above (12 credits)

GL 201, 202, & 203 or above (12 credits)

JPN 201, 202, & 203 or above (12 credits)

SPAN 201, 202, & 203 or above (12 credits)