

DEPARTMENT DEGREE PROGRAMS

Curriculum for the B.S. Degree in Chemistry

This program is usually chosen by students who want to enter the chemical industry or graduate school in chemistry, biochemistry, or related areas. This program meets certification requirements of the American Chemical Society.

Program Requirements: (46-47 semester hours)

Highly recommended for first year students:

CHM 147 Introductory Seminar (1)

All of these:

CHM 141, 141H or CHM141R and

CHM 142, 142M or 142H College Chemistry (3, 3)

CHM 144M or 144H (or with approval CHM 144 College Chemistry Lab) (2)

CHM 145M or 145H (or with approval CHM 145 College Chemistry Laboratory) (2)

CHM 251, 252 Organic Chemistry for Chemistry Majors (3, 3)

CHM 254, 255 Organic Chemistry Laboratory for Chemistry Majors (2, 2)

CHM 375 Quantitative Analysis (3)

CHM 451 or 471 AND CHM 452 or 472 Physical Chemistry/Biophysical Chemistry I II (3, 3)

CHM 491 Chemistry in Societal Issues or CHM 492 Independent Research Capstone in Chemistry (3)

Advanced Chemistry Coursework

An additional fourteen (14) advanced credit hours (200 level or above) in chemistry are required, of which at least two (2) credit hours are from an advanced lab course chosen from:

CHM 419 Advanced Synthesis Laboratory (2) OR

CHM 456 Chemical Measurements (2) (CHM 452 or 472 is a pre-req for this course) OR

CHM 438 Biochemistry Lab (2) (CHM 432 is a pre-req for this course) OR

Graded research in

CHM 377 or CHM 477 Independent Study (2) or

CHM 480 Departmental Honors (2) or

CHM 490 undergraduate research or CHM 340 Undergraduate Summer fellowship research

Additional hours can be chosen from the following

CHM 411 Learning Theories in Chemistry (3)

CHM 415 Misconceptions in Chemistry (3)

CHM 417 Advanced Inorganic Chemistry (3)

CHM 432 Fundamentals of Biochemistry (4)

CHM 454 Instrumental Analysis (3)

CHM 426 Spectroscopic Identification of Structure (2)

CHM 429 Polymer Chemistry (2)

CHM 430 Topics in Biochemistry (2-3)

CHM 450 Topics in Organic Chemistry (2-3)

CHM 460 Topics in Physical Chemistry (2-3)

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Related Hours (22-23 required)

All of these:

- MTH 151, 251 Calculus I, II (5, 4) or equivalents
- PHY 191 General Physics I with lab (5)
- PHY 192 General Physics II with lab (5)

Choose ONE of the following:

- MTH 222 Introduction to Linear Algebra (3)
- MTH 231 Elements of Discrete Mathematics (3)
- MTH 245 Differential Equations for Engineers (3)
- MTH 252 Calculus III (4)
- MTH 347 Differential Equations (3)
- STA 301 Applied Statistics (4) /or STA 333/ or STA 363

Curriculum for the B.A. Degree in Chemistry

This program is for students interested in a career in the life or health sciences, physical sciences related to chemistry, or in teaching chemistry in secondary school. Students who anticipate graduate study in chemistry should elect the B.S. Chemistry Program.

Program Requirements: (32-33 semester hours)

Highly recommended for first year students:

CHM 147 Introductory Seminar (1)

All of these:

CHM 141, 141H or CHM141R and

CHM 142, 142M or 142H College Chemistry (3, 3)

CHM 144M or 144H (or with approval CHM 144 College Chemistry Lab) (2)

CHM 145M or 145H (or with approval CHM 145 College Chemistry Laboratory) (2)

CHM 251, 252 Organic Chemistry for Chemistry Majors (3, 3)

CHM 254, 255 Organic Chemistry Laboratory for Chemistry Majors (2, 2)

CHM 375 Quantitative Analysis (3)

CHM 451 or 471 AND CHM 452 or 472 Physical Chemistry/Biophysical Chemistry I II (3, 3)

CHM 491 Chemistry in Societal Issues or CHM 492 Independent Research Capstone in Chemistry (3)

Related Hours (28 required)

All of these:

MTH 151, 251 Calculus I, II (5, 4) or equivalents

PHY 191 General Physics I with lab (5)

PHY 192 General Physics II with lab (5)

Additional science courses:

Nine (9) credit hours at the 200 level or above in one of the following departments:

CHM, GLG, MBI, PHY, PCE, STA and BIO.

Choices can also be made from

MTH 222 (3), MTH 231 (3), MTH 245 (3) MTH 252 (4) and MTH 347.

Students seeking the Bachelor of Arts in Chemistry meet the College of Arts and Science writing in the major requirement by completing the following courses:

CHM 255, CHM 375 and CHM 491 or 492.