

Chemistry (B.S.)

Diep Ca, Assistant Professor of Chemistry

Gregory Hall, Room 210, (540) 678-4330

The Chemistry program prepares students for graduate study in chemistry; further studies in health-related occupations such as pharmacy, medicine, and dentistry; teaching in secondary schools; and for a wide variety of chemistry-related positions in industry and government, including quality control, environmental control, production supervision and research and development. The program also provides necessary experience and background for students studying biological or environmental science. Development of comprehension, expertise and hands-on skills occur in a supportive laboratory-based environment and culminate in an individualized research project.

Course Title Credit Hours

CHEM 121 General Chemistry I 4

CHEM 122 General Chemistry II 4

CHEM 211 Analytical Chemistry 4

CHEM 301 Organic Chemistry I 4

CHEM 302 Organic Chemistry II 4

CHEM 312 Biochemistry 4

CHEM 317 Inorganic Chemistry 4

CHEM 321 Physical Chemistry I 4

CHEM 322 Physical Chemistry II 4

CHEM 420 Advanced Synthesis and Analysis 3

CHEM 491 Research Seminar 2

82 • Shenandoah University Undergraduate Catalog

CHEM 492 Research Seminar 2

MATH 201 Calculus and Analytic Geometry I 5

MATH 202 Calculus and Analytic Geometry II 5

PHYS 111 College Physics I 4

or

PHYS 121 General Physics I 4

PHYS 122 General Physics II 4

Total 61

See Undergraduate Catalog for specific course rotation schedule.

Secondary Teacher Education Professional Studies Certificate (6-12 and K-12)

Mary Bowser, Professor of Education

Henkel Hall, Room 204, (540) 665-4590

This program contains the professional studies required by the Virginia Department of Licensure Regulations for secondary education teachers and K-12 endorsements.

Students may elect to add this program as a minor to their current or completed major in a liberal arts field so they could apply for a Virginia Teacher's license in that field.

Course Title Credit Hours

PSY 220 Child Development 3

EDU 221 Child Development Lab 1

EDU 301 Orientation to Teaching 3

EDU 343 Methods and Assessment in Middle/Secondary Schools 3

EDU 344 Methods and Management in Middle/Secondary Schools 3

RDG 425 Reading and Writing in the Content Area (6-12) 3

Pass PRAXIS II requirement before student teaching

EDU 441 Student Teaching in the Middle/Secondary Schools 9

Total 25*

**Teacher endorsement area requirements may be satisfied through transcript analysis by the Education Department faculty. The outcome of this analysis may be possible recommendations for supplementary coursework in order for students to achieve compliance with Virginia Department of Education regulations.*

Chemistry majors seeking licensure are additionally required to take the following courses:

BIO 121 General Biology I 4

BIO 122 General Biology II 4

Total 8