

CHEMISTRY (CHEM)

UNIVERSITY OF LYNCHBURG
SCHOOL OF SCIENCES

CHEMISTRY DEPARTMENT
BACHELOR OF ARTS

UNIVERSITY DELL REQUIREMENTS (42 Credits)

	SEM	GR
Core (12 Credits)		
COMM 101 Oral Argumentation & Advocacy	_____	_____
ENGL 123W College Writing Workshop	_____	_____
<i>Integrative Seminars</i>	NMBR	
DELL 100-level First-Year Seminar	_____	_____
DELL 400-level Senior-Year Seminar	_____	_____

Artistic & Creative Thinking* (3 Credits)

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Ethics or Civic Engagement* (3 Credits)

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Historical Interpretation* (3 Credits)

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Language & Intercultural Competence** (6 Credits)

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Literary Analysis* (3 Credits)

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Living Well* (2 Credits)

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Quantitative Reasoning* (3 Credits)

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Scientific Literacy* (4 Credits)

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Social Science Literacy* (3 Credits)

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FREE ELECTIVES*** (40 Credits)

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MAJOR REQUIREMENTS (42 Credits)

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Chemistry Core (39 Credits)

CHEM 111 Fundamentals of Chemistry I	_____	_____
CHEM 112 Fundamentals of Chemistry II	_____	_____
CHEM 221 Organic Chemistry I	_____	_____
CHEM 222 Organic Chemistry II	_____	_____
CHEM 242W Research Methods	_____	_____
CHEM 359 Analytical Chemistry I	_____	_____
CHEM 360 Analytical Chemistry II	_____	_____
CHEM 441 Chemistry Seminar	_____	_____
MATH 103 Calculus I	_____	_____
PHYS 141 or 161 Physics (college or calc-based)	_____	_____
PHYS 142 or 162 Physics (college or calc-based)	_____	_____

Chemistry Elective^a (3 credits)

Any CHEM course 200+ or above	_____	_____
BIOM 312 Forensic Science also accepted	_____	_____

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NOTES

*Refer to class schedule for lists of courses that satisfy University requirements.

**Must take two sequential courses.

***Courses that do not satisfy a major or DELL requirement. Can include coursework for a minor.

^aChoose one CHEM course 200+ or above including environmental chemistry, biochemistry, fermentation chemistry or special topics offerings.

Total credits required for graduation: 124 Credits

For graduation with Honors, see Undergraduate Catalog

Course sequencing

If planning a B.A. major in chemistry, a student should select the following:

First year: CHEM 111-112 FR year along with MATH 103 (if not previously taken in high school).

Second year, a student should select CHEM 221-222 and PHYS 161-162 and CHEM 242W.

Third year: CHEM 359-360 and CHEM elective. It is a great idea to consider an internship or begin a research project

Fourth year: CHEM 441 and if you have not done so already, pursue an internship and/or complete a research project.

Departmental Faculty:

Priscilla Gannicott, Ph.D. gannicott@lynchburg.edu

Jason Crumpton, Ph.D. crumpton.j@lynchburg.edu

Samrat Thapa, Ph.D. thapa.s@lynchburg.edu

Bill Lokar, Ph.D. lokar@lynchburg.edu

Stephen Burris, M.Ed. burris.s@lynchburg.edu

Departmental strengths:

Hands-on access to excellent Instrumentation: Thermo Scientific GC/MS, Thermo Scientific ATR-FTIR, Agilent Technologies MP-AES, Shimadzu HPLC, Cary Eclipse spectrofluorometer, many uv-vis spectrophotometers.

Local Internships: Fleet Laboratories (analytical and in research and development), KDC/One, BWXT radiochemistry, etc.

Professional/Grad schools: Chemistry is an excellent choice for those who want to pursue their graduate education in health-related fields, especially pharmacy and forensic science. We have an excellent track record for placement into professional and or graduate school programs. Students have earned these graduate degrees: PhD, PharmD, DVM, MD, DO, MS forensic chemistry and toxicology, MS environmental engineering.

Student-Faculty Collaborative research: All chemistry faculty are research active. Examples of the most recent projects are as follows: Multi-elemental analysis of wild edible mushrooms using MP/AES, Elemental analysis of legacy sediments in College Lake, Mobilization of calcium across mineralized tissues in yellow perch, Derivatization and analysis of volatile pheromones in Dolomedes trion via GC/MS, Analysis of iron in beer using a cloud-point extraction pre-concentration technique, The relationship between insect visitors and chemical fragrance composition in two *Cypripedium parviflorum* var. *pubescens* populations, Abiotic stress and anthocyanins biosynthesis in *Arabidopsis thaliana*.

Small upper-level class size: A small class translates to faculty who know you well and can help maximize your learning opportunities.

Specialized upper-level courses: fermentation chemistry, environmental chemistry, biochemistry, surface chemistry