

CHEMISTRY | BACHELOR OF ARTS: CHEMISTRY

If you're interested in a career as a high school teacher, a chemical librarian, chemical salesperson, medical doctor, pharmaceutical salesperson or chiropractor, the Bachelor of Arts (BA) in Chemistry may be the right option for you. You may pursue a non-specialized degree program or choose from specializations for teacher education or environmental chemistry. Students interested in a career in environmental chemistry or teacher education should follow the Environmental Chemistry emphasis or Teacher Education program as outlined below.

Program Summary

Code	Title	Hours
General Education		34
Bachelor of Arts Language Requirement		10
Major Courses		32
Major Electives		5
Cognates		11-13
Open Electives ¹		26-28
Total Hours		120

¹ Open electives are the credit hours required to reach a minimum of 120 total hours and 45 upper-level hours. The number listed assumes all courses are completed at FHSU as listed. This number may vary if students transfer courses, or have individual substitutions allowed.

Students should speak with their advisor if either situation applies to determine if the number will vary, and to ensure they enroll in a minimum of 45 upper-level hours.

Students entering within 1 year of high school graduation will take UNIV 101 Freshman Seminar and may apply that hour in the open elective category.

Program Requirements

General Education

All undergraduate degrees require completion of the Kansas Systemwide General Education (<https://catalog.fhsu.edu/general-education/>).

Courses identified with ^{GE} on this page may satisfy a general education requirement in addition to the identified degree requirement. Students who apply a degree requirement to satisfy a general education requirement will typically add an equal number of hours to the the university elective category. This flexibility may allow you to complete a minor or certificate within the 120 hour degree. Transfer students and students majoring in programs with approved exceptions (<https://www.fhsu.edu/general-education/documents/fhsu-gen-ed-transfer-exceptions-explainer1.pdf>) are especially encouraged to select these courses in completing General Education requirements to maximize the likelihood of completing the degree with 120 credit hours.

Code	Title	Hours
General Education		34-35

BA Language Requirement

All FHSU students pursuing a BA degree are required to take two consecutive non-English language classes. Students taking beginning

Spanish or French classes may be able to apply the first class to the Arts and Humanities area of the general education requirement.

Code	Title	Hours
Bachelor of Arts Language Requirement		10

Code	Title	Hours
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Modern Language Courses

Select 10 credits of Modern Language Courses (beginning courses I, II, III and lab)		10
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Major Core Courses

CHEM 101	Orientation to Chemistry	1
CHEM 120 & 120L	University Chemistry I and University Chemistry Laboratory I ^{GE}	5
CHEM 122 & 122L	University Chemistry II and University Chemistry Laboratory II ^{GE}	5
CHEM 340 & 340L	Organic Chemistry and Organic Chemistry Laboratory I	5
CHEM 342 & 342L	Organic Chemistry II and Organic Chemistry Laboratory II	5
CHEM 350 & 350L	Chemical Analysis and Chemical Analysis Laboratory	5
CHEM 430 & 430L	Survey of Physical Chemistry and Survey of Physical Chemistry Laboratory	5
CHEM 675	Seminar in Chemistry	1

Directed Electives

Select five credit hours from Upper Division Chemistry courses

Cognates		
MATH 234	Analytic Geometry and Calculus I ^{GE}	3-5
or MATH 331	Calculus Methods	

Select one option from the following: 8

Option A

PHYS 111/111L	Physics I ^{GE}	
PHYS 112/112L	Physics II ^{GE}	

Option B

PHYS 211/211L	Engineering Physics I ^{GE}	
PHYS 212/212L	Engineering Physics II ^{GE}	

Total Hours 58-60

Degree Requirements

Code	Title	Hours
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Bachelor of Arts Degree Language Requirement

Two consecutive semesters of a non-English Language

All bachelor degrees require:

GPA of 2.0 on FHSU courses & 2.0 on all coursework (Higher program requirements prevail over the 2.0 when set)

A minimum of 30 hours earned from FHSU with a grade of D, C, B, or A

Successful completion of an upper division Writing and Information Literacy course (Most majors contain a course designated)

A minimum of 45 hours of recognized upper division credit

A minimum of 120 hours of recognized college credit

Reach out to our faculty mentors for information on a chemistry emphasis:

- **Teacher Education in Chemistry Concentration:** Dr. Edwin Olmstead (eolmstead@fhsu.edu)
- **Pharmacy Concentration:** Dr. Arvin Cruz (ajcruz2@fhsu.edu)
- **Pre-Dental/Pre-Optometry Concentration:** Dr. Krisztina Bencze (kzbencze@fhsu.edu)
- **Pre-Medicine/KCOG/:** Dr. James Balthazor (jrbalthazor@fhsu.edu)