

# BIOANALYTICAL CHEMISTRY (CERTIFICATE)

## Description

Bioanalytical chemistry and the chemical analysis of biological samples are important areas in modern biological and biochemical research and in industries that either produce or test biochemicals. Examples of fields in which bioanalytical chemistry plays an essential component include clinical testing, biomedical research, food and agricultural research, drug testing and development, and biotechnology. This certificate program will meet an ongoing and growing need for professionals who have expertise and training in bioanalytical chemistry and who can readily apply the methods of this field to new areas of research, chemical or biochemical analysis, or product development as related to humans, animals, plants, and microorganisms.

## Program-Related Information

### Certificate Advisor

David Hage  
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### Support Staff

Rezarta Selmani  
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## Program Website

<https://chem.unl.edu/academics/graduate/>

## Applying for Admission

### Standard requirements for all graduate programs

- Application for Admission with \$50 non-refundable application fee (<https://graduate.unl.edu/admissions/requirements/#appfee>).
- Transcripts (<https://graduate.unl.edu/admissions/requirements/#transcripts>) (unofficial): Uploaded as part of application form.  
If International: Uploads must include all college- or university-level transcripts or mark sheets (records of courses and marks earned), with certificates, diplomas, and degrees plus certified English translations.  
  
After admission: Official documents are required from all students who are admitted and enroll. Photocopies of certified records are not acceptable. International students enrolled in other U.S. institutions may have certified copies of all foreign records sent directly to the Office of Graduate Studies by their current school's registrar office.
- If applicant's native language is not English, verification of English proficiency (<https://graduate.unl.edu/admissions/english-proficiency/>) is required.  
When sending TOEFL scores, our institution code is 6877 and a department code is not needed.
- If applicant is not a US citizen and expects an F or J visa: financial information (<https://graduate.unl.edu/prospective/international/financial/>).
- Applicants must also fulfill any additional requirements the department specifies at the time of application.

### Additional requirements specific to this program

- Personal Statement: Provide a personal statement of 250-500 words that describes your background, as related to the topic of this certificate program, and the reasons for your interest in this program. Also, state how you believe taking part in this program will help you to advance your career and/or your professional development.

*Certificate programs are not considered degree programs, so international students should be aware that admission to this program is ineligible for immigration forms for an F-1 student visa.*

## Requirements

Complete 18 credit hours:

Required courses (6 credits)		6
CHEM 821	Analytical Chemistry	3
or CHEM 824	Applied Problems in Analytical Chemistry	
CHEM 835	Chemical Biology	3
<i>Select two of the following (6 credits)</i>		6
CHEM 825D	Mass Spectrometry	3
CHEM 825G	Chromatographic Separations	3
CHEM 825K	Introduction to Nuclear Magnetic Resonance	3
CHEM 991A	Selected Topics in Analytical Chemistry (Biosensors)	1-6
Electives (6 credits)		6
CHEM 825E	Data Handling and Statistics	2
CHEM 991E	Special Topics in Organic Chemistry (Introduction to Computational Chemistry)	2-4
CHEM 936	Molecular Biology Methods	2-3
CHEM 871	Physical Chemistry	4
CBIO 842	Biosystems Research 2: Integrating Quantitative and Computational Biology into Life Sciences Research	3
BIOC 837	Research Techniques in Biochemistry	4
CHEM 823	Analytical Chemistry Laboratory	2
CHEM 898	Special Problems (non-thesis research)	1-6
CHEM 825D	Mass Spectrometry (if not counted within core requirements)	3
CHEM 825G	Chromatographic Separations (if not counted within core requirements)	3
CHEM 991A	Selected Topics in Analytical Chemistry (other than Biosensors)	1-6