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## Required Coursework

### Chemistry Plan A (Research-based Thesis)

Complete 21 units in required courses, including CHEM 420, 470, 631, 641, 651, 680, 681, and 691. Complete additional, approved courses as elective units to a total of 30 units. Submit an approved University Thesis.

### Chemistry Plan B (Review Paper/ Comprehensive Exam)

Complete 23 units in required courses, including CHEM 420, 425, 470, 631, 641, 651, 680, 692, and 693. Complete additional, approved courses as elective units to a total of 30 units. Pass written Comprehensive Exams, and write and orally defend a Literature Review paper on an approved topic.

### Biochemistry concentration Plan A (Research-based Thesis)

Complete 24 units in required courses, including CHEM 420, 470, 631, 641, 642, 651, 680, 681, and 691. Complete additional, approved courses as elective units to a total of 30 units. Submit an approved University Thesis.

### Biochemistry Concentration Plan B (Review Paper /Comprehensive Exam)

Complete 22 units in required courses, including CHEM 420, 470, 631, 641, 642, 651, 680, 692, and 693. Complete additional, approved courses as elective units to a total of 30 units. Pass written Comprehensive Exams, and write and orally defend a Literature Review paper on an approved topic.



## For Further Information

<http://www.csueastbay.edu/chemistry/>

Or contact the Chemistry Department Graduate Coordinator: Dr. Anne Kotchevar  
(anne.kotchevar@csueastbay.edu)

## The Chemistry and Biochemistry Department Office



Science North, Room 431  
California State University, East Bay  
25800 Carlos Bee Blvd.  
Hayward, CA 94542-3089  
Phone: (510) 885-3452  
Fax: (510) 885-4675

## To Apply

<http://www.csueastbay.edu/admissions/>

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# The Master of Science Degree in Chemistry at CSU East Bay

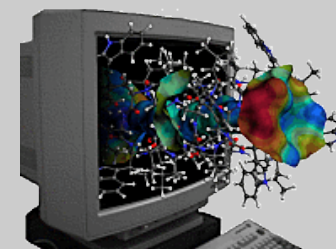
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Chemistry and Biochemistry  
Department Office:  
Science North, Room 431

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You will benefit from earning an  
M.S. degree in Chemistry if:

1. You are seeking a job in industry beyond the B.S. degree level, or
  2. You are now employed at the B.S. degree level, but want to advance your career, or
  3. You want to teach high school or community college level Chemistry or Biochemistry, or
  4. You want to pursue a Ph.D. degree in Chemistry or Biochemistry in the future, or
  5. You want to strengthen your application to Medical, Dental, or Pharmacy School.
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## Faculty

The Professors in the Chemistry and Biochemistry Department all hold Ph.D. degrees from highly respected Universities. They bring diverse specialties to the Program, and provide students with the knowledge and skills they will need to succeed.

Dr. Mark Borja (Ph.D., UC-Berkeley)  
Dr. Patrick Fleming Ph.D., The Ohio State University)  
Dr. Michael Groziak (Ph.D., Northwestern University)  
Dr. Marlin Halim (Ph.D., Columbia University)  
Dr. Patrick Huang (Ph.D., UC-Berkeley)  
Dr. Anne Kotchevar (Ph.D., University of Minnesota)  
Dr. Ann McPartland (Ph.D., Purdue University)  
Dr. Monika Sommerhalter (Ph.D., Technische Universität Berlin)  
Dr. Ruth Tinnacher (Ph.D., Colorado School of Mines)  
Dr. Stephanie Zaleski (Ph.D., Northwestern University)

### For Faculty Profiles:

<http://www.csueastbay.edu/chemistry/faculty/index.html>

## Research

Faculty mentored research in Biochemistry, Organic Chemistry, Environmental Chemistry, Computational Chemistry, and Physical Chemistry

Almost all of our Plan A students conduct research in on-site laboratories, directed by one of the Department's Faculty members. Candidates whose employers permit the use of their own facilities and approve the release of research findings may arrange to conduct research on their employer's premises, subject to prior approval by the Department.

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## Instruments and Facilities

Varian 500 MHz NMR Spectrometer  
(with an Indirect Detect probe for  $^1\text{H}$ ,  $^{19}\text{F}$ ,  $^{13}\text{C}$ , and  $^{31}\text{P}$ , and a Dual Broadband probe for  $^{19}\text{F}$ ,  $^{13}\text{C}$ ,  $^{31}\text{P}$ ,  $^{15}\text{N}$ ,  $^{11}\text{B}$ )



Inductively Coupled Plasma-Optical Emission Spectrometer (ICP-OES)  
Hewlett Packard HP1100 and HP1150 HPLCs  
(with UV/Vis and Fluorescence detection)  
Agilent Technologies Gas Chromatograph/Mass Spectrometer  
Bruker MicroESR Electron Paramagnetic Resonance Spectrometer  
Horiba Spectrofluorometer  
(with a stopped flow attachment)  
Initiator Microwave Synthesizers  
FP Liquid Chromatograph (FPLC)  
Perkin Elmer FTIR spectrometers  
ChemDoc Molecular Imager  
Liquid Scintillation Counter  
Total Organic Carbon/Total Inorganic Carbon Analyzer  
Computer Lab

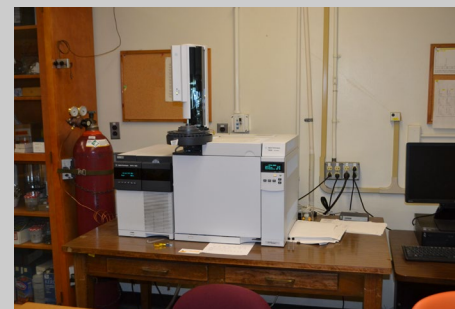


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## Admission Requirements

Applicants need a bachelor's degree equivalent to a BS degree in our Department and a GPA of  $\geq 2.6$  in the major. GRE scores are not required.

An Undergraduate degree outside of Chemistry or Biochemistry may be used, but students may be required to take additional classes before advancing to candidacy.



## Plan Options

### Plan A (Research-based Thesis)

Involves conducting laboratory research and requires the writing of a University Thesis.

### Plan B (Paper/Comprehensive Exam)

No research, but requires 1) extra coursework, 2) passing two written Comprehensive Exams, and 3) writing a literature review paper and defending it orally before a Faculty Committee.

### Biochemistry Concentration

Plan A or B, with a focus in Biochemistry.

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