

# BIOINFORMATICS: CHEMICAL & BIOMOLECULAR ENGINEERING, MS

for the Master of Science in Bioinformatics, Chemical & Biomolecular Engineering Concentration

**This program is not currently accepting applications.**

## Other Graduate Programs in Chemical & Biomolecular Engineering

degrees:

Chemical Engineering, MS (<http://catalog.illinois.edu/graduate/las/chemical-engineering-ms/>)  
 Chemical Engineering, PhD (<http://catalog.illinois.edu/graduate/las/chemical-engineering-phd/>)

### optional concentrations:

Computational Science and Engineering (<http://catalog.illinois.edu/graduate/engineering/concentration/computational-science-engineering/>)

The Department of Chemical & Biomolecular Engineering offers graduate programs leading to degrees of Master of Science and Doctor of Philosophy in Chemical Engineering, as well as a Chemical & Biomolecular Engineering Concentration under the MS in Bioinformatics.

for the Master of Science in Bioinformatics, Chemical & Biomolecular Engineering Concentration

For additional details and requirements for all degrees, please refer to the department's Graduate Studies Web site (<https://chbe.illinois.edu/graduate-program/>) and the Graduate College Handbook (<http://grad.illinois.edu/gradhandbook/>).

## Thesis Option

Code	Title	Hours
Computer Science and Informatics (choose one)		4
CS 411	Database Systems	
CS 466	Introduction to Bioinformatics	
CS 473	Algorithms	
CPSC 565	Perl & UNIX for Bioinformatics	
IS 455	Database Design and Prototyping	
IS 542	Research and Inquiry for Youth	
STAT 428	Statistical Computing	
STAT 440	Statistical Data Management	
STAT 448	Advanced Data Analysis	
STAT 480	Data Science Foundations	
STAT 525	Computational Statistics	
Fundamental Bioinformatics (choose one)		4
ANSC 542	Applied Bioinformatics	
ANSC 545	Statistical Genomics	
CHBE 571	Bioinformatics	
CPSC 567	Bioinformatics & Systems Biol	
CS 466	Introduction to Bioinformatics	
IB 467	Principles of Systematics	
MCB 432	Computing in Molecular Biology	
Biology (choose one)		4
ANSC 441	Human Genetics	
ANSC 444	Applied Animal Genetics	
ANSC 446	Population Genetics	
BIOP 401	Introduction to Biophysics	
BIOP 550	Biomolecular Physics	
CPSC 452	Advanced Plant Genetics	

CPSC 466	Genomics for Plant Improvement	
CPSC 563	Chromosomes	
CPSC 564		
CPSC 566	Plant Gene Regulation	
MCB 400	Cancer Cell Biology	
MCB 450	Introductory Biochemistry	
MCB 501	Advanced Biochemistry	
MCB 502	Advanced Molecular and Cell Biology	
CHBE 572 & CHBE 580	Metabolic Systems Engineering and Lab Techs in Bioinformatics	6
CHBE 599	Thesis Research (min/max applied toward degree)	4
<b>Total Hours</b>		<b>32</b>

**Other Requirements**

Requirement	Description
Other requirements may overlap	
A concentration is required.	
Minimum 500-level Hours Required Overall:	12
Minimum GPA:	2.75

**Non-Thesis Option**

Code	Title	Hours
Computer Science and Informatics (choose one)		4
CS 411	Database Systems	
CS 466	Introduction to Bioinformatics	
CS 473	Algorithms	
CPSC 565	Perl & UNIX for Bioinformatics	
IS 455	Database Design and Prototyping	
IS 542	Research and Inquiry for Youth	
STAT 428	Statistical Computing	
STAT 440	Statistical Data Management	
STAT 448	Advanced Data Analysis	
STAT 480	Data Science Foundations	
STAT 525	Computational Statistics	
Fundamental Bioinformatics (choose one)		4
ANSC 542	Applied Bioinformatics	
ANSC 545	Statistical Genomics	
CHBE 571	Bioinformatics	
CPSC 567	Bioinformatics & Systems Biol	
CS 466	Introduction to Bioinformatics	
IB 467	Principles of Systematics	
MCB 432	Computing in Molecular Biology	
Biology (choose one)		4
ANSC 441	Human Genetics	
ANSC 444	Applied Animal Genetics	
ANSC 446	Population Genetics	
BIOP 401	Introduction to Biophysics	
BIOP 550	Biomolecular Physics	
CPSC 452	Advanced Plant Genetics	
CPSC 466	Genomics for Plant Improvement	
CPSC 563	Chromosomes	
CPSC 564		
CPSC 566	Plant Gene Regulation	

MCB 400	Cancer Cell Biology	
MCB 450	Introductory Biochemistry	
MCB 501	Advanced Biochemistry	
MCB 502	Advanced Molecular and Cell Biology	
CHBE 572 & CHBE 580	Metabolic Systems Engineering and Lab Techs in Bioinformatics	6
<b>Total Hours</b>		<b>36</b>

**Other Requirements**

Requirement	Description
Other requirements may overlap	
A concentration is required.	
Minimum 500-level Hours Required Overall:	12
Minimum GPA:	2.75