

# Biotechnology Graduate Certificate

The Graduate Certificate in Biotechnology is offered for students with a bachelor's degree who wish to obtain advanced level training in those fields of biology that pertain to biotechnology without necessarily earning a master's degree. Students who enter this program may have a variety of interests, including biochemistry, microbiology, molecular biology, cell biology, developmental biology, or molecular evolution.

## Admission

Students who wish to earn a Graduate Certificate in Biotechnology must apply to the Biotechnology Certificate Program for admission to the program. Students must be enrolled in the graduate program at the University of Missouri-St. Louis either as non-degree students or as master's students.

Students who wish to obtain a Master's degree with a Biotechnology Certificate must be accepted into the Master's degree program in Biology as well as into the Biotechnology Certificate Program. Students who apply to the certificate program as non-degree students will earn only the certificate.

Students must have at least a 3.0 GPA for undergraduate course work to be accepted into the program. The minimum course prerequisites for admission to the program are undergraduate courses in genetics, cell biology, and biochemistry.

## Requirements

Students must maintain a minimum GPA of 3.0 to remain in the certificate program. The certificate is awarded after completion of the courses listed below. Students enrolled in the Master's program may simultaneously earn a graduate degree and count the appropriate courses from the list below toward the Biotechnology Certificate.

The biotechnology certificate requires 18 credit hours of course work:

BIOL 6615	Advanced Biotechnology Laboratory II	4
BIOL 6602	Advanced Molecular Biology (If both Group II courses are taken, one may be used as elective credit)	3
or BIOL 6612	Advanced Molecular Genetics of Bacteria	

### Electives

Select 11 credits from the following: 11

Biology	
BIOL 4712	Biochemistry
BIOL 4842	Immunobiology
BIOL 5069	Topics In Cellular And Molecular Biology
BIOL 6550	Advanced Bacterial Pathogenesis
BIOL 6612	Advanced Molecular Genetics of Bacteria
BIOL 6622	Advanced Cellular Basis of Disease
BIOL 6632	Advanced Nucleic Acid Structure and Function

BIOL 6642	Advanced Plant Biology and Biotechnology
BIOL 6652	Advanced Virology
BIOL 6699	Graduate Internship in Biotechnology
BIOL 6889	Graduate Seminar
BIOL 6915	Graduate Research Practicum
BIOL 6920	Advanced Topics in Biology
Chemistry	
CHEM 4722	Advanced Biochemistry
CHEM 4733	Biochemistry Laboratory
CHEM 4772	Physical Biochemistry
Total Hours	18