BIOTECHNOLOGY (BS)

Contacts

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Program Website (https://www.jefferson.edu/academics/colleges-schools-institutes/health-professions/departments-programs/medical-laboratory-biotechnology/degrees-programs/bs-programs/biotechnology.html)

Program Description

Biotechnology is one of the region's most promising, exciting and fastest-growing industries, and evolves through rapidly changing technologies, techniques and applications.

The curriculum prides itself on the team-based projects that pervade the courses and a focus on communication and teamwork skills, consistent with the learning outcomes for the courses, is evident as the students are required to demonstrate both written and oral presentation skills throughout the curriculum.

Curriculum: BS, 2-Year Option

- Credits Required for Admission: 55

Course	Title	Credits
First Year		
Fall		
BT 303	Molecular Prep Techniques	3
BT 310	Fundamental Molec Techniques	4
BT 405	Appld Microbial Biotechnology	3
LS 301	Molecular Biology	3
LS 304	Biochemistry	3
	Credits	**16**
Spring		
BT 410	Molecular Diagnostic Technique	4
BT 411	Protein Purification & Charact	3
LS 440	Current Resrch in Biosciences	2
BT 320	Cell and Tissue Culture	4
Program Approved Elective		1-2
	Credits	**14-15**
Second Year		
Fall		
BT 305	Survey of Biotech Applications	3
BT 412	Biotechnology Practicum I	3
BT 422	Biotechnology Practicum II	3
HCA 300	Health Services Del & Org	3
LS 331	Immunology	3
LS 403	Research Design	2
LS 404	Experimental Research I (requires approval)	1
	Credits	**18**
Spring		
BT 325	Product Development&Management	3
BT 403	Human Genetics	3
BT 406	Intro to Bioinformatics	2
BT 416	Comprehensive Exam	0
BT 432	Biotechnology Practicum III	3
BT 442	Biotechnology Practicum IV	3
LS 430	Lab Standards & Practices	3
LS 405	Experimental Research II (or approved elective)	1-2
	Credits	**18-19**
	Total Credits	**66-68**

Curriculum: BS, 1-Year Option Without Concentration

- Credits Required for Admission: 70

Course	Title	Credits
First Year		
Fall		
BT 303	Molecular Prep Techniques	3
BT 310	Fundamental Molec Techniques	4
BT 405	Appld Microbial Biotechnology	3
LS 301	Molecular Biology	3
LS 304	Biochemistry	3
LS 331	Immunology	3
	Credits	**19**
Spring		
BT 320	Cell and Tissue Culture	4
BT 325	Product Development&Management	3
BT 403	Human Genetics	3
BT 406	Intro to Bioinformatics	2
BT 411	Protein Purification & Charact	3
BT 410	Molecular Diagnostic Technique	4
LS 440	Current Resrch in Biosciences	2-3
	Credits	**21-22**
Summer		
BT 412	Biotechnology Practicum I	3
BT 416	Comprehensive Exam	0
BT 422	Biotechnology Practicum II	3
BT 432	Biotechnology Practicum III	3
BT 442	Biotechnology Practicum IV	3
LS 430	Lab Standards & Practices	3
	Credits	**15**
	Total Credits	**55-56**

Curriculum: BS, 1 Year Option Biopharmaceutical Process Development Concentration

- Credits Required for Admission: 70

Course	Title	Credits
First Year		
Fall		
BT 303	Molecular Prep Techniques	3
BT 310	Fundamental Molec Techniques	4
BT 405	Appld Microbial Biotechnology	3
LS 301	Molecular Biology	3
LS 304	Biochemistry	3
LS 331	Immunology	3
	Credits	**19**
Spring		
BT 320	Cell and Tissue Culture	4
BT 325	Product Development&Management	3
BT 403	Human Genetics	3
BT 406	Intro to Bioinformatics	2

Course	Title	Credits
BT 410	Molecular Diagnostic Technique	4
BT 411	Protein Purification & Charact	3
	Credits	**19**
Summer		
BP 401	Bas Engineering for Scientists	2
BP 403	Intro to Biopharm Processing	2
BP 405	Intro to Upstream Unit Oper	4
BT 412	Biotechnology Practicum I	3
BT 416	Comprehensive Exam	0
BT 422	Biotechnology Practicum II	3
BT 432	Biotechnology Practicum III	3
BT 442	Biotechnology Practicum IV	3
	Credits	**20**
	Total Credits	**58**