

BACHELOR OF SCIENCE IN BIOCHEMISTRY

In pursuing the [Bachelor of Science in Biochemistry](#), students will first build a strong foundation in general chemistry, general biology, physical, and organic chemistry prior to choosing directed and professional electives that will allow them the flexibility to pursue topics that will be relevant to their future career tracks in biochemistry, biotechnology, chemistry or health.

Required Courses

APM 205

APM 206

EFB 101

EFB 102

EFB 103

EFB 104

EWP 190

EWP 290

ESF 200

FCH 132

FCH 150

FCH 151

FCH 152

FCH 153

FCH 221

FCH 222

FCH 223

FCH 224

FCH 232

EPH 201

EPH 202

EPH 203

EPH 204

Elective

Course Name	Codes*	Credits
Math Elective (Calculus III [APM307] or Statistics [APM210])		3
Free Elective		9
General Education Course in two of the following categories: US History & Civic Engagement, The Arts, Social Sciences, World History and Global Awareness, World Languages		6
General Education Course in Diversity, Equity, Inclusion and Social Justice	G	3

Upper Division Required Courses

EFB 307

EFB 325

EWP 407

FCH 360

FCH 380

FCH 382

FCH 381

FCH 430

OR

FCH 530

FCH 431

OR

FCH 531

FCH 432

OR

FCH 532

FCH 495

FCH 497

FCH 496/FCH 498

Internship in Chemistry and/or Introduction to Research

5

Upper Division Electives

Students will take 16 credits of Professional Electives.

At least one Professional Elective must have a laboratory component.

At least one Professional Elective must be a biology (EFB, BTC, BIO) course and at least one Professional Elective must be a chemistry (FCH or CHE) course. Biology or chemistry courses with a laboratory component may count towards both requirements.

Coursework suitable for meeting the professional electives:

Courses are grouped thematically. However, students are not restricted to any one theme. Other 300+ level science or engineering courses may be considered with approval from the curriculum coordinator. Note that taking a class at SU may incur additional costs, so please speak with your advisor prior to registering for these.

Inorganic and Physical Chemistry

FCH 361

FCH 410

FCH 510

FCH 511

FCH 525

CHE 474

Structural

3

Physical Biochemistry

Natural Products Chemistry

EFB 412

FCH 390

FCH 524		
CHE 427	Organic Chem of Bio Molecules	3
<i>Analytical Chemistry and Microscopy</i>		
FCH 515		
FCH 584		
MCR 480		
MCR 484		
MCR 485		
MCR 585		
<i>Quantitative Biology</i>		
EFB 308		
EFB 311		
EFB 320		
EFB 360		
APM 210		
APM 395		
APM 620		
BIO 440	Applied Genomics	3
BCM 484	Biomolecular Modeling	3
MEDT 445	Experimental Design	1.5
	Analysis of Variance	
<i>Pre-Health</i>		
EFB 385		
EFB 400		
EFB 453		
EFB 463		
EHS 320		

BIO 216/316	Anatomy	4
	Physiology I	
BIO 217/317	Anatomy	4
	Physiology II	
BIO 446	Epigenetics of Health & Disease	3
CHE 412	Metals in Medicine	3
MEDT 303	Immunology	3.5
MEDT 350	Human Genetics	3.5
MEDT 351	Hematology	4
MEDT 360	Chemistry	5
MEDT 422	Medical Microbiology	6
MEDT 424	Medical Mycology/Parasitology	2
MEDT 443	Immunohematology	3.5
<i>Animal Biochemistry</i>		
EFB 385		
EFB 462		
EFB 570		
BIO 316	Anatomy & Physiology I for Biology Majors	4
BIO 317	Anatomy & Physiology II for Biology Majors	4
<i>Plant Biochemistry</i>		
BTC 425		
BTC 426		
EFB 427		
EFB 429		
EFB 437		
EFB 531		

FCH 630

Microbial Biochemistry

EFB 303

EFB 340

EFB 350

EFB 402

EFB 428

EFB 453

ERE 620

MEDT 422	Medical Microbiology	6
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MEDT 424	Medical Mycology/Parasitology	2
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Industrial Biochemistry and Biotechnology

BPE 300

BPE 321

BPE 421

BPE 438

BTC 401

ERE 520

ERE 521

PSE 350

BIO 464	Applied Biotechnology	4
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Additionally, any FCH496 BPE496, BTC496, or EFB496 course can count towards the professional electives requirement with approval from the curriculum coordinator.

Total Minimum Credits For Degree: 120

*Syracuse University course. Additional course fees may apply.

**Upstate Medical University course. Additional course fees may apply.

