

Date Submitted: 03/21/24 10:20 am

Viewing: **BS-BIOL-3 : Bachelor of Science in Biology**

Last approved: 04/15/22 3:21 pm

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Changes proposed by: bekytan

Catalog Pages [Bachelor of Science in Biology](#)
Using this Program

Program Status	Active		
Requestor	Name	Tanya Bekyarova	E-mail
			bekytan@iit.edu
Origination Date	2024-3-21 2022-2-28		
Is this an interdisciplinary program?	No		
Academic Unit	Biological Sciences		
College	Lewis College of Science and Letters		
Program Title	Bachelor of Science in Biology		
Effective Academic Year	2024 2022 - 2025	Effective Term	Fall 2024
	2023		
Academic Level	Undergraduate		

If all courses in a subject in your department are required, please enter each subject followed by the number ranges in the "Quick Add" field in the pop up box when you click the green plus button below. For example: ARCH 100-499.

What courses will factor the major GPA?

Program Type	Degree
Degree Type	Bachelor of Science (BS)

In Workflow

1. **BIOL Chair**
2. Academic Affairs
3. Undergraduate Academic Affairs
4. LS Dean
5. Undergraduate Studies Committee Chair
6. Faculty Council Chair
7. Academic Affairs

History

1. Oct 25, 2017 by clmig-jwehrheim
2. Nov 8, 2017 by Sarah Pariseau (sparisea)
3. Apr 27, 2018 by Sarah Pariseau (sparisea)
4. May 1, 2018 by Sarah Pariseau (sparisea)
5. Oct 23, 2020 by Patty Johnson Winston (winston)
6. Apr 15, 2022 by Tanya Bekyarova (bekytan)

CIP Code

26.0101 - Biology/Biological Sciences, General.

Is there more than one Academic Unit proposer?

No

Program Code BS-BIOL-3

Program Attribute

Total Program 126
Credit Hours

Please provide a
summary and
rationale for the
requested program
revision.

1. Remove Chemistry 247 Analytical Chemistry and Physics 224 General Physics 3 from the list of required collateral courses and move them to free electives.

2. Remove Biology 430 from the list of required Biology courses. These three credits to move to free electives.

Note: When the university moves to a minimum of 120 credit hours for the BS programs, this will mean the Biology program will have 12 credit hours (4 classes) of technical electives, as it does now, and 6 credits (2 courses) of free electives which is more than currently in the program. ~~10/23/2020:Update program iteration code and effective CAT year/term for college reorg.PJW We would like to change the term "Biology electives" to 'Technical Electives' in the undergraduate biology programs.While the former works fine for single degrees, it creates issues with dual degrees.Changing to technical electives would allow students to take electives from either of the two majors from their dual degree.~~

Program Narrative and Justification

Narrative description of how the institution determined the need for the program. For example, describe what need this program will address and how the institution became aware of that need. If the program is replacing a current program(s), identify the current program(s) that is being replaced by the new program(s) and provide details describing the benefits of the new program(s). If the program will be offered in connection with, or in response to, an initiative by a governmental entity, provide details of that initiative.

Narrative description of how the program was designed to meet local market needs, or for an online program, regional or national market needs. For example, indicate if Bureau of Labor Statistics data or State labor data systems information was used, and/or if State, regional, or local workforce agencies were consulted. Include how the course content, program length, academic level, admission requirements, and prerequisites were decided; including information received from potential employers about course content; and information regarding the target students and employers.

Narrative description of any wage analysis the institution may have performed, including any consideration of Bureau of Labor Statistics wage data related to the new program.

Narrative description of how the program was reviewed or approved by, or developed in conjunction with, one or more of the following: a) business advisory committees; b) program integrity boards; c) public or private oversight or regulatory agencies (not including the state licensing/authorization agency and accrediting agency); and d) businesses that would likely employ graduates of the program. For example, describe the steps taken to develop the program, identify when and with whom discussions were held, provide relevant details of any proposals or correspondence generated, and/or describe any process used to evaluate the program.

Admission Entry Details

What are the enrollment estimates?

Year 1

Year 2

Year 3

Attach Additional
Program
Justification
Document(s)

Academic Information

Advising

Since quality advising is a key component of good retention, graduation, and career placement, how will students be mentored? What student professional organizations will be formed? How will the department work with the Career Services office to develop industry connections?

Program Resources

Which program
resources are

necessary to offer
this program?

Proposed Catalog Entry

Admission
Requirements

Course Requirements

Required Courses

Biology Requirements		(31)
<u>BIOL 100</u>	Introduction to the Profession	2
<u>BIOL 107</u>	General Biology Lectures	3
<u>BIOL 109</u>	General Biology Laboratory	1
<u>BIOL 115</u>	Human Biology	3
<u>BIOL 117</u>	Human Biology Laboratory	1
<u>BIOL 210</u>	Microbiology	3
<u>BIOL 214</u>	Genetics	3
<u>BIOL 225</u>	Microbiology Laboratory	2
<u>BIOL 401</u>	Introductory Biochemistry	3
<u>BIOL 402</u>	Metabolic Biochemistry	3
<u>BIOL 445</u>	Cell Biology	3
<u>BIOL 451</u>	Biological Literature	2
<u>BIOL 495</u>	Biology Colloquium	1
<u>BIOL 495</u>	Biology Colloquium	1
Senior Biology Laboratory Requirements		(6)
Select two courses from the following:		6
<u>BIOL 404</u>	Biochemistry Laboratory	3
<u>BIOL 431</u>	Animal Physiology Laboratory	3
<u>BIOL 446</u>	Cell Biology Laboratory	3
<u>BIOL 455</u>	Macromolecular Techniques	3
Technical Electives		(12)

Select 12 credit hours	12
Mathematics Requirements	(13)
MATH 151 Calculus I	5
MATH 152 Calculus II	5
MATH 425 Statistical Methods	3
Chemistry Requirements	(15)
CHEM 124 Principles of Chemistry I with Laboratory	4
CHEM 125 Principles of Chemistry II with Laboratory	4
CHEM 237 Organic Chemistry I	4
CHEM 239 Organic Chemistry II	3
Physics Requirements	(8)
PHYS 123 General Physics I: Mechanics	4
PHYS 221 General Physics II: Electricity and Magnetism	4
Computer Science Requirement	(2)
CS 105 Introduction to Computer Programming	2
or CS 110 Computing Principles	
Interprofessional Projects	(6)
See Illinois Tech Core Curriculum, section E	6
Humanities and Social Science Requirements	(21)
See Illinois Tech Core Curriculum, sections B and C	21
Free Elective	(12)
PHYS 224 General Physics III for Engineers	3
CHEM 247 Analytical Chemistry	3
BIOL 430 Human Physiology	3
Select three credit hours	3
Total Credit Hours	126

Sample
Curriculum/Program
Requirements

Bachelor of Science in Biology Curriculum

Semester 1	Credit Hours	Semester 2	Credit Hours
BIOL 100	2	BIOL 115	3
BIOL 107	3	BIOL 117	1
BIOL 109	1	CHEM 125	4
CHEM 124	4	MATH 152	5
MATH 151	5	Humanities 200-level Course	3
	15		16
			Year 2
Semester 1	Credit Hours	Semester 2	Credit Hours
BIOL 214	3	BIOL 210	3
CHEM 237	4	BIOL 225	2
PHYS 123	4	CHEM 239	3
Social Sciences Elective	3	PHYS 221	4
Humanities or Social Sciences Elective	3	Humanities Elective (300+)	3
	17		15
			Year 3
Semester 1	Credit Hours	Semester 2	Credit Hours
BIOL 401	3	BIOL 402	3
Senior Biology Laboratory Elective ¹	3	BIOL 430	3
CHEM 247	3	I PRO Elective I	3
PHYS 224	3	CS 105 or 110	2
Social Sciences Elective (300+)	3	MATH 425	3
	15	Humanities Elective (300+)	3
			17
			Year 4
Semester 1	Credit Hours	Semester 2	Credit Hours
BIOL 445	3	BIOL 451	2
BIOL 495	1	BIOL 495	1
Senior Biology Laboratory Elective ¹	3	I PRO Elective II	3
Technical Elective	3	Technical Elective	3
Technical Elective	3	Technical Elective	3
Free Elective	3	Social Sciences Elective (300+)	3
	16		15

Total Credit Hours: 126

¹

Choose from the following courses: [BIOL 404](#), [BIOL 431](#), [BIOL 446](#), or [BIOL 455](#).

Specialization
Requirements

Program Outcomes and Assessment Process

What are the
learning goals for

this program?

In what semesters will the data be collected to assess this learning goal, and by whom?

Provide the name of the rubric that will be used to assess the extent to which students are achieving this learning goal.

How often and by whom will the data be analyzed? What benchmarks or targets will be used to interpret your results?

Briefly describe the process that will be used to share the results with faculty and use these to motivate program improvement.

Attach Additional Assessment Document(s)

Undergraduate Program Requirements

What courses will factor the major GPA?

Undergraduate Degree Requirements

Minimum credit hours 126

Specialization required?
No

Minor required?
No

Proposed General Curriculum

List Major Course Requirements

List Mathematics Requirements

List Science Requirements

List Computer Science Requirements

List Humanities and Social Sciences Requirements

List Interprofessional Project (IPRO) Requirements

List Technical Elective Course Options

List Free Elective Credit Hours (if applicable)

Semester-by-semester plan of study for the degree program

Reviewer
Comments

