

Date Submitted: 02/13/24 12:25 pm

Viewing: **BS-ENCH-1 : Bachelor of Science in Environmental Chemistry**

Last approved: 10/23/20 6:49 pm

Last edit: 02/13/24 12:25 pm

Changes proposed by: sokhai

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

Program Status	<u>Hiatus</u> Active	
Is this a significant curriculum change?		
Requestor	Name <u>Shamiah Okhai Holli Pryor-Harris</u> E-mail pryor@iit.edu	
Origination Date	<u>2024-2-13</u> 2020-10-23	
Is this an interdisciplinary program?	No	
Academic Unit College	Chemical Sciences Lewis College of Science and Letters	
Program Title	Bachelor of Science in Environmental Chemistry	
Effective Academic Year	<u>2024</u> 2020 - <u>2025</u> 2021	Effective Term Spring 2025
Academic Level	Undergraduate	

In Workflow

1. CHEM Curriculum Committee Chair
2. CHEM Chair
3. Academic Affairs
4. Undergraduate Academic Affairs
5. LS Dean
6. Undergraduate Studies Committee Chair
7. Faculty Council Chair
8. Faculty Council Chair
9. Provost
10. President
11. Academic Affairs

Approval Path

1. 03/20/24 3:35 pm mandal: Approved for CHEM Curriculum Committee Chair
2. 10/24/24 12:25 pm Yuanbing Mao (ymao17): Approved for CHEM Chair
3. 10/24/24 2:12 pm Ayesha Qamer (aqamer): Approved for Academic Affairs
4. 10/24/24 2:37 pm Joseph Gorzkowski (jgorzkow): Approved for Undergraduate Academic Affairs
5. 11/05/24 10:55 am Jennifer deWinter (jdewinter):

Approved for LS
Dean

6. 11/26/24 4:35 pm
Kathiravan
Krishnamurthy
(kkrishn2):
Approved for
Undergraduate
Studies Committee
Chair

History

1. Oct 25, 2017 by
clmig-jwehrheim
2. Nov 8, 2017 by
Sarah Pariseau
(sparisea)
3. Nov 20, 2017 by
Sarah Pariseau
(sparisea)
4. Apr 27, 2018 by
Sarah Pariseau
(sparisea)
5. Oct 23, 2020 by
Holli Pryor-Harris
(pryor)

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)

CIP Code

40.0509 - Environmental Chemistry.

Is there more than one Academic Unit proposer?

No

Program Code BS-ENCH-1

Program Attribute

Total Program 127

Credit Hours

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

[2/13/2024 Program placed on hiatus.](#)

10/23/2020 Updated program iteration code and effective CAT year/term for College Reorg.
HPH

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

Required Courses

Environmental Chemistry Requirements		(51)
<u>CHEM 100</u>	Introduction to the Profession	2
<u>CHEM 124</u>	Principles of Chemistry I with Laboratory	4
<u>CHEM 125</u>	Principles of Chemistry II with Laboratory	4
<u>CHEM 237</u>	Organic Chemistry I	4
<u>CHEM 239</u>	Organic Chemistry II	3
<u>CHEM 240</u>	Organic Chemistry Laboratory	2
<u>CHEM 247</u>	Analytical Chemistry	3
<u>CHEM 321</u>	Instrumental Analysis	4
<u>CHEM 343</u>	Physical Chemistry I	3
<u>CHEM 344</u>	Physical Chemistry II	4
<u>CHEM 415</u>	Inorganic Chemistry	3
<u>CHEM 434</u>	Spectroscopic Methods in Identification and Analysis	4
<u>CHEM 463</u>	Analytical Method Development Laboratory	3
<u>CHEM 472</u>	Environmental Chemistry	3
<u>CHEM 473</u>	Environmental Analytical Chemistry	3
<u>CHEM 485</u>	Chemistry Colloquium	1
<u>CHEM 495</u>	Seminar in Special Topics	1
Environmental Chemistry Electives		(6)
Select two courses from the following:		6
<u>CHEM 410</u>	Science of Climate Change	3
<u>CHEM 416</u>	Advanced Chemistry Laboratory	3
<u>CHEM 452</u>	Cheminformatics	3
<u>CHEM 460</u>	Bioanalytical Chemistry	3
<u>CHEM 461</u>	Bioanalytical Chemistry Laboratory	3
<u>CHEM 467</u>	Medicinal Chemistry	3
<u>CHEM 475</u>	Forensic Chemistry	3
<u>CHEM 476</u>	Forensic Chemistry Laboratory	3
<u>CHEM 500</u>	Advanced Analytical Chemistry	3

CHEM 513	Statistics for Analytical Chemists	3
CHEM 538	Physical Biochemistry	3
Biology Requirements		(6-7)
BIOL 107	General Biology Lectures	3
or BIOL 115	Human Biology	
BIOL 401	Introductory Biochemistry	3-4
or BIOL 403	Biochemistry	
Mathematics Requirements		(18)
MATH 151	Calculus I	5
MATH 152	Calculus II	5
MATH 251	Multivariate and Vector Calculus	4
MATH 252	Introduction to Differential Equations	4
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	
Humanities and Social Sciences Requirements		(21)
See Illinois Tech Core Curriculum, sections B and C		21
Interprofessional Projects (IPRO)		(6)
See Illinois Tech Core Curriculum, section E		6
Free Electives		(9)
Select nine credit hours ¹		9
Total Credit Hours		127-128

¹
Suggested electives include: [BIOL 210](#), [BIOL 445](#), [BIOL 514](#), [ENVE 404](#), [ENVE 463](#), [ITMD 521](#), [ITMD 525](#), and [ITMD 527](#).

Bachelor of Science in Environmental Chemistry Curriculum

		Year 1	
Semester 1	Credit Hours	Semester 2	Credit Hours
CHEM 124	4	CHEM 100	2
CS 105 or 110	2	CHEM 125	4
MATH 151	5	MATH 152	5
Humanities 200-level Course	3	PHYS 123	4
		Social Sciences Elective	3
	14		18
		Year 2	
Semester 1	Credit Hours	Semester 2	Credit Hours
CHEM 237	4	CHEM 239	3
BIOL 107 or 115	3	CHEM 240	2
MATH 251	4	CHEM 247	3
PHYS 221	4	MATH 252	4
Humanities or Social Sciences Elective	3	Humanities Elective (300+)	3
	18		15
		Year 3	
Semester 1	Credit Hours	Semester 2	Credit Hours
CHEM 321	4	CHEM 344	4
CHEM 343	3	CHEM 434	4
I PRO Elective I	3	CHEM 472	3
Social Sciences Elective (300+)	3	CHEM 485	1
Free Elective ¹	3	Humanities Elective (300+)	3
	16		15
		Year 4	
Semester 1	Credit Hours	Semester 2	Credit Hours
BIOL 401 or 403	3-4	CHEM 495	1
CHEM 415	3	Environmental Chemistry Elective ²	3
CHEM 463	3	Environmental Chemistry Elective ²	3
CHEM 473	3	I PRO Elective II	3
Free Elective ¹	3	Social Sciences Elective (300+)	3
		Free Elective ¹	3
	15-16		16

Total Credit Hours: 127-128

Suggested electives include: [BIOL 210](#), [BIOL 445](#), [BIOL 514](#), [ENVE 404](#), [ENVE 463](#), [ITMD 521](#), [ITMD 525](#), and [ITMD 527](#).

2

Choose from the following courses: [CHEM 410](#), [CHEM 416](#), [CHEM 452](#), [CHEM 460](#), [CHEM 461](#), [CHEM 467](#), [CHEM 475](#), [CHEM 476](#), [CHEM 500](#), [CHEM 513](#), or [CHEM 538](#).

Specialization
Requirements

Program Outcomes and Assessment Process

What are your learning objectives in this program? Please list each learning objective in the boxes below:

Note: These should be the same as described in your assessment plan at the bottom of this form.

Upload your
assessment plan
here:

Undergraduate Program Requirements

What courses will
factor the major
GPA?

Undergraduate Degree Requirements

Minimum credit hours 127

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) 9

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

Report from Faculty
Council

Reviewer

Comments

mandal (10/22/24 9:24 am): Disapprove

