

Date Submitted: 02/13/24 12:27 pm

# Viewing: **BS-MEDC-1 : Bachelor of Science in Medicinal Chemistry**

Last approved: 10/23/20 6:53 pm

Last edit: 02/13/24 12:27 pm

Changes proposed by: sokhai

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

Program Status	<u>Hiatus</u> Active	
Is this a significant curriculum change?		
Requestor	Name <u>Shamiah Okhai</u> <del>Holli Pryor-Harris</del> E-mail <a href="mailto:pryor@iit.edu">pryor@iit.edu</a>	
Origination Date	<u>2024-2-13</u> <del>2020-10-23</del>	
Is this an interdisciplinary program?	No	
Academic Unit College	Chemical Sciences Lewis College of Science and Letters	
Program Title	Bachelor of Science in Medicinal Chemistry	
Effective Academic Year	<u>2024</u> <del>2020</del> - <u>2025</u> <del>2021</del>	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 12:27 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 4:41 pm  
Kathiravan  
Krishnamurthy  
(kkrishn2):  
Approved for  
Undergraduate  
Studies Committee  
Chair

## History

1. Oct 26, 2017 by  
clmig-jwehrheim
2. Nov 8, 2017 by  
Sarah Pariseau  
(sparisea)
3. Apr 27, 2018 by  
Sarah Pariseau  
(sparisea)
4. 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  
51.2004 - Medicinal and Pharmaceutical Chemistry.

Is there more than one Academic Unit proposer?

No

Program Code            BS-MEDC-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**

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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

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What are the enrollment estimates?

Year 1

Year 2

Year 3

Attach Additional  
Program  
Justification  
Document(s)

## Academic Information

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### Advising

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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

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Which program  
resources are  
necessary to offer  
this program?

## Proposed Catalog Entry

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Admission  
Requirements

Course Requirements

## Required Courses

<b>Medicinal Chemistry Requirements</b>		<b>(51)</b>
<u><a href="#">CHEM 100</a></u>	Introduction to the Profession	2
<u><a href="#">CHEM 124</a></u>	Principles of Chemistry I with Laboratory	4
<u><a href="#">CHEM 125</a></u>	Principles of Chemistry II with Laboratory	4
<u><a href="#">CHEM 237</a></u>	Organic Chemistry I	4

<a href="#">CHEM 239</a>	Organic Chemistry II	3
<a href="#">CHEM 240</a>	Organic Chemistry Laboratory	2
<a href="#">CHEM 247</a>	Analytical Chemistry	3
<a href="#">CHEM 321</a>	Instrumental Analysis	4
<a href="#">CHEM 343</a>	Physical Chemistry I	3
<a href="#">CHEM 344</a>	Physical Chemistry II	4
<a href="#">CHEM 415</a>	Inorganic Chemistry	3
<a href="#">CHEM 434</a>	Spectroscopic Methods in Identification and Analysis	4
<a href="#">CHEM 456</a>	Computational Biochemistry and Drug Design	3
<a href="#">CHEM 463</a>	Analytical Method Development Laboratory	3
<a href="#">CHEM 467</a>	Medicinal Chemistry	3
<a href="#">CHEM 485</a>	Chemistry Colloquium	1
<a href="#">CHEM 495</a>	Seminar in Special Topics	1
<b>Medicinal Chemistry Electives</b>		<b>(6)</b>
Select two courses from the following:		6
<a href="#">CHEM 416</a>	Advanced Chemistry Laboratory	3
<a href="#">CHEM 452</a>	Cheminformatics	3
<a href="#">CHEM 455</a>	Advanced Organic Chemistry	3
<a href="#">CHEM 460</a>	Bioanalytical Chemistry	3
<a href="#">CHEM 461</a>	Bioanalytical Chemistry Laboratory	3
<a href="#">CHEM 473</a>	Environmental Analytical Chemistry	3
<a href="#">CHEM 476</a>	Forensic Chemistry Laboratory	3
<a href="#">CHEM 513</a>	Statistics for Analytical Chemists	3
<a href="#">CHEM 538</a>	Physical Biochemistry	3
<b>Biology Requirements</b>		<b>(6-7)</b>
<a href="#">BIOL 107</a>	General Biology Lectures	3
or <a href="#">BIOL 115</a>	Human Biology	
<a href="#">BIOL 401</a>	Introductory Biochemistry	3-4
or <a href="#">BIOL 403</a>	Biochemistry	
<b>Mathematics Requirements</b>		<b>(18)</b>
<a href="#">MATH 151</a>	Calculus I	5
<a href="#">MATH 152</a>	Calculus II	5

<a href="#">MATH 251</a>	Multivariate and Vector Calculus	4
<a href="#">MATH 252</a>	Introduction to Differential Equations	4
<b>Physics Requirements</b>		<b>(8)</b>
<a href="#">PHYS 123</a>	General Physics I: Mechanics	4
<a href="#">PHYS 221</a>	General Physics II: Electricity and Magnetism	4
<b>Computer Science Requirement</b>		<b>(2)</b>
<a href="#">CS 105</a>	Introduction to Computer Programming	2
or <a href="#">CS 110</a>	Computing Principles	
<b>Humanities and Social Sciences Requirements</b>		<b>(21)</b>
<a href="#">See Illinois Tech Core Curriculum, sections B and C</a>		21
<b>Interprofessional Projects (IPRO)</b>		<b>(6)</b>
<a href="#">See Illinois Tech Core Curriculum, section E</a>		6
<b>Free Electives</b>		<b>(9)</b>
Select nine credit hours <sup>1</sup>		9
Total Credit Hours		127-128

<sup>1</sup> Suggested electives include: [BIOL 210](#), [BIOL 445](#), [BIOL 514](#), [BIOL 527](#), [BIOL 550](#), [ITMD 521](#), [ITMD 525](#), and [ITMD 527](#).

Sample  
Curriculum/Program  
Requirements

## Bachelor of Science in Medicinal Chemistry

			Year 1
Semester 1	Credit Hours	Semester 2	Credit Hours
<a href="#">CHEM 124</a>	4	<a href="#">CHEM 100</a>	2
<a href="#">CS 105</a> or <a href="#">110</a>	2	<a href="#">CHEM 125</a>	4
<a href="#">MATH 151</a>	5	<a href="#">MATH 152</a>	5
Humanities 200-level Course	3	<a href="#">PHYS 123</a>	4
		Social Sciences Elective	3
	14		18
			Year 2
Semester 1	Credit Hours	Semester 2	Credit Hours
<a href="#">CHEM 237</a>	4	<a href="#">CHEM 239</a>	3
<a href="#">BIOL 107</a> or <a href="#">115</a>	3	<a href="#">CHEM 240</a>	2
<a href="#">MATH 251</a>	4	<a href="#">CHEM 247</a>	3

<a href="#"><u>PHYS 221</u></a>	4	<a href="#"><u>MATH 252</u></a>	4
Humanities or Social Sciences Elective	3	Humanities Elective (300+)	3
	18		15
			Year 3
Semester 1	Credit	Semester 2	Credit
	Hours		Hours
<a href="#"><u>CHEM 321</u></a>	4	<a href="#"><u>CHEM 344</u></a>	4
<a href="#"><u>CHEM 343</u></a>	3	<a href="#"><u>CHEM 434</u></a>	4
I PRO Elective I	3	<a href="#"><u>CHEM 467</u></a>	3
Social Sciences Elective (300+)	3	<a href="#"><u>CHEM 485</u></a>	1
Free Elective <sup>1</sup>	3	Humanities Elective (300+)	3
	16		15
			Year 4
Semester 1	Credit	Semester 2	Credit
	Hours		Hours
<a href="#"><u>BIOL 401</u></a> or <a href="#"><u>403</u></a>	3-4	<a href="#"><u>CHEM 495</u></a>	1
<a href="#"><u>CHEM 415</u></a>	3	Medicinal Chemistry Elective <sup>2</sup>	3
<a href="#"><u>CHEM 456</u></a>	3	Medicinal Chemistry Elective <sup>2</sup>	3
<a href="#"><u>CHEM 463</u></a>	3	I PRO Elective	3
Free Elective <sup>1</sup>	3	Social Sciences Elective (300+)	3
		Free Elective <sup>1</sup>	3
	15-16		16

Total Credit Hours: 127-128

<sup>1</sup>

Suggested electives include: [BIOL 210](#), [BIOL 445](#), [BIOL 514](#), [BIOL 527](#), [BIOL 550](#), [ITMD 521](#), [ITMD 525](#), and [ITMD 527](#).

<sup>2</sup>

Choose from the following courses: [CHEM 416](#), [CHEM 452](#), [CHEM 455](#), [CHEM 460](#), [CHEM 461](#), [CHEM 473](#), [CHEM 476](#), [CHEM 513](#), or [CHEM 538](#).

Specialization  
Requirements

## **Program Outcomes and Assessment Process**

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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**

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What courses will  
factor the major  
GPA?

## **Undergraduate Degree Requirements**

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Minimum credit      127  
hours

Specialization  
required?  
No

Minor required?  
No

## **Proposed General Curriculum**

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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 9:23 am):** Disapprove







