



DEPARTMENT OF
HIGHER EDUCATION &
WORKFORCE DEVELOPMENT

New Program Report

Date Submitted:

04/07/2023

Institution

Missouri Western State University

Site Information

Implementation Date:

8/28/2023 12:00:00 AM

Added Site(s):

Selected Site(s):

Missouri Western State University, 4525 Downs Drive, St. Joseph, MO, 64507

CIP Information

CIP Code:

400501

CIP Description:

A general program that focuses on the scientific study of the composition and behavior of matter, including its micro- and macro-structure, the processes of chemical change, and the theoretical description and laboratory simulation of these phenomena.

CIP Program Title:

Chemistry, General

Institution Program Title:

Chemistry, General

Degree Level/Type

Degree Level:

Bachelor's Degree

Degree Type:

Bachelor of Science

Options Added:

Collaborative Program:

N

Mode of Delivery

Current Mode of Delivery

Classroom

Student Preparation

Special Admissions Procedure or Student Qualifications required:

None

Specific Population Characteristics to be served:

None



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Faculty Characteristics

Special Requirements for Assignment of Teaching for this Degree/Certificate:
Ph.D. or Masters degree in Chemistry or a closely related field

Estimate Percentage of Credit Hours that will be assigned to full time faculty:
100%

Expectations for professional activities, special student contact, teaching/learning innovation:
Faculty are expected to engage in scholarly work including research and pedagogical innovation that leads to peer-reviewed presentation and publication of the work. Faculty research is expected to engage undergraduate students in this program wherever possible.

Student Enrollment Projections Year One-Five

Year 1	Full Time: 5	Part Time: 0	
Year 2	Full Time: 10	Part Time: 0	
Year 3	Full Time: 22	Part Time: 0	Number of Graduates: 7
Year 4	Full Time: 33	Part Time: 0	
Year 5	Full Time: 40	Part Time: 0	Number of Graduates: 10

Percentage Statement:
10.00

Program Accreditation

Institutional Plans for Accreditation:
The current BS Chemistry degree is certified by the American Chemical Society. The curricular revision proposed herein would continue to maintain that certification.

Program Structure

Total Credits:
120

Residency Requirements:
None

General Education Total Credits:
42

Major Requirements Total Credits:
67

Course(s) Added

COURSE NUMBER	CREDITS	COURSE TITLE
CHE 311	2	Organic Chemistry Lab I
ESC 111	4	Physical Geology
CHE 442	1	Inorganic Synthesis
CHE 120	5	General Chemistry II with Qualitative Analysis



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CHE 370	4	Biochemistry I
CHE 340	4	Foundations of Physical Chemistry
CHE 326	4	Instrumental Analysis
CHE 321	4	Quantitative Analysis
CHE 475	1	Chemistry Internship
PHY 110	4	College Physics I
ENT 201	3	Entrepreneurship I
CHE 420	1	Chemistry Laboratory Assistantship
CHE 313	2	Organic Chemistry Lab II
MAT 287	3	Multivariable Calculus
CHE 450	1	Independent Research/Project
BIO 205	4	Genetics
PHY 111	4	College Physics II
ENG 301	3	Entrepreneurship II
Restricted Electives	13	At Least 5 Credits Must Be CHE 300 or Higher
CHE 308	3	History and Philosophy of the Natural Sciences
CHE 485	2	Chemistry Capstone Experience
ETC 200	3	Introduction to Technical Communication
CHE 441	3	Advanced Inorganic Chemistry
CRJ 100	3	Introduction to Criminal Justice
MAT 177	3	Calculus with Analytic Geometry II
GEO 160	3	Physical Geography
MAT 167	5	Calculus with Analytic Geometry I
CHE 490	1	Research in Chemistry
CHE 312	3	Organic Chemistry II
CHE 465	3	Chemistry Teaching: Methods and Techniques
BIO 106	4	Principles of Cell Biology
CSC 184	3	Introduction to Computer Programming
CHE 380	3	Environmental Chemistry & Chemical Management
CHE 310	3	Organic Chemistry I



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CHE 111	5	General Chemistry I
CHE 470	3	Biochemistry II
CHE 480	4	Advanced Physical Chemistry

Free Elective Credits:

53

Internship or other Capstone Experience:

None

Assurances

I certify that the program is clearly within the institution's CBHE-approved mission. The proposed new program must be consistent with the institutional mission, as well as the principal planning priorities of the public institution, as set forth in the public institution's approved plan or plan update.

I certify that the program will be offered within the proposing institution's main campus or CBHE-approved off-site location.

I certify that the program will not unnecessarily duplicate an existing program of another Missouri institution in accordance with 6 CSR 10-4.010, subsection (9)(C) Submission of Academic Information, Data and New Programs.

I certify that the program will build upon existing programs and faculty expertise.

I certify that the program can be launched with minimal expense and falls within the institution's current operating budget.

I certify that the institution has conducted research on the feasibility of the proposal and it is likely the program will be successful. Institutions' decision to implement a program shall be based upon demand and/or need for the program in terms of meeting present and future needs of the locale, state, and nation based upon societal needs, and/or student needs.

Contact Information

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Missouri Western State University

Major Declaration Form *PROPOSED*

Degree/Program:	B.S.– Chemistry
Major:	Chemistry
Catalog Year: 2023-2024	Expires: 2029-2030

Student Name _____

Telephone _____ G# _____

Advisor _____ Department _____

SIGNATURES REQUIRED:

Student _____ Date _____

Advisor _____ Date _____

Chairperson _____ Date _____

Registrar _____ Date _____

DEGREE REQUIREMENTS

- Earn a minimum of 120 credit hours (100 level and higher, maximum of 6 CED credit hours applicable).
- Earn a minimum of 30 credit hours in upper division courses. Lower division transfer courses accepted as meeting upper division departmental course requirements cannot be used to fulfill this requirement.
- Earn 30 of the last 45 credit hours at MWSU in institutional coursework (exclusive of credit by examination).
- Participate in required departmental and campus wide assessments.
- Earn an overall and major GPA of at least 2.0 and a major GPA of at least 2.0.
- Fulfill the Missouri Constitution requirement.
- Successfully pass the Missouri Higher Education Civics Achievement Exam

GENERAL STUDIES REQUIREMENTS

General Education focuses on a broad range of courses that help students acquire academic skills and knowledge necessary for understanding, communicating and performing in a diverse and complex world. Bachelor degrees require a general studies curriculum with a minimum of 42 credit hours. Specific course options can be found through the student's GPS record in Goldlink or at missouriwestern.edu/registrar/core42.

MAJOR REQUIREMENTS (67 Credits)

Core Requirements (54 Credits)		Credit	Grade
CHE 111	General Chemistry I	5	
CHE 120	General Chemistry II w/Qualitative Analysis	5	
CHE 310	Organic Chemistry I	3	
CHE 311	Organic Chemistry Lab I	2	
CHE 312	Organic Chemistry II	3	
CHE 313	Organic Chemistry Lab II	2	
CHE 321	Quantitative Analysis	4	
CHE 326	Instrumental Analysis	4	
CHE 340	Foundations of Physical Chemistry	4	
CHE 370	Biochemistry I	4	
CHE 380	Environmental Chem & Chemical Mgt	3	
CHE 485	Chemistry Capstone Experience	2	
MAT 167	Calculus w/Analytical Geometry I	5	
PHY 110	College Physics I	4	
PHY 111	College Physics II	4	

Restricted Electives: (13 Credits)		Credit	Grade
Complete 13 hours minimum from the following elective courses. At least 5 credits must be CHE 300 or higher.			
CHE 308	History and Phil. of the Natural Sciences	3	
CHE 420*	Chemistry Laboratory Assistantship	1 to 2	
CHE 441	Advanced Inorganic Chemistry	3	
CHE 442	Inorganic Synthesis	1	
CHE 450*	Independent Research/Project	1 to 3	
CHE 465	Chemistry Teaching: Methods and Techn.	3	
CHE 470	Biochemistry II	3	
CHE 475*	Chemistry Internship	1 to 3	
CHE 480	Advanced Physical Chemistry	4	
CHE 490*	Research in Chemistry	1 to 3	
BIO 106	Principles of Cell Biology	4	
BIO 205	Genetics	4	
CSC 184	Introduction to Computer Programming	3	
CRJ 100	Introduction to Criminal Justice	3	
ENT 201	Entrepreneurship I	3	
ENT 301	Entrepreneurship II	3	
ESC 111	Physical Geology	4	
GEO 160	Physical Geography	3	
ETC 200	Introduction to Technical Communication	3	
MAT 177	Calculus w/ Analytic Geometry II	3	
MAT 287	Multivariable Calculus	3	

* Repeatable courses are limited to the number of credit hours shown above.

TR beside grade denotes that transfer work fulfills course requirements.

All students should seek the advice of an MWSU advisor. The student is responsible for knowing the regulations and policies in the current University Catalog and Student Handbook and for meeting the requirements for a degree or certificate.