

## **Montana Transfer Pathway**

in

# **CHEMISTRY**

**For a Bachelor's Degree from one of these Montana four-year institutions**

Montana State University – Bozeman  
Montana State University - Billings  
Montana Technological University  
The University of Montana – Missoula

## **I. INTRODUCTION**

Montana Transfer Pathways outline the knowledge and skills that are essential for students to complete during their first two years of study in a given discipline. The coursework described in a pathway will meet degree requirements at all participating Montana postsecondary institutions offering majors in the discipline. If a student completes this coursework successfully, they will be well-positioned to finish their degree with an additional two years of full-time study at their transfer college.

Montana Transfer Pathways do not create a common lower-division curriculum. Rather, they capture what requirements are held in common, leaving space for each campus degree program to indicate coursework that is unique to its program of study.

The objectives and limitations below describe the minimum requirements to which all participating institutions agree.

## **II. OBJECTIVES**

Unless otherwise noted within a pathway, students who complete a Montana Transfer Pathways curriculum, pass all required credits with a C- or better, and transfer to a 4-year campus offering a bachelor's degree in the pathway's field can expect:

1. Junior standing with the ability to graduate with their chosen four-year degree after two further years of full-time study.
2. Successful completion of the receiving institution's lower-division general education curriculum (per BOR Policy 301.10).
3. An opportunity to appeal transfer decisions through an internal campus appeal process that conforms to the requirements of BOR Policy 301.5.

## **III. LIMITATIONS**

There are some important limitations:

1. Only courses with grades of C- or higher can count toward program or general education requirements (per BOR Policy 301.5.3).
2. Admission to a receiving institution does not guarantee enrollment in a specific degree program. Some programs at receiving institutions have controlled admissions due either to space limitations or academic requirements.
3. The receiving institution shall accept all applicable credits earned within five years of transfer to the receiving institution. Credits earned more than five years earlier will be evaluated on a course-by-course basis or according to institution specific policies (per BOR Policy 301.5.2).

4. Some degree programs cannot be completed in four years of full-time study. When this is the case, the pathway document will indicate the time frame in which a transfer student who has completed the pathway curriculum may expect to fulfill all degree requirements.

#### **IV. PROCESS FOR APPROVAL OF A PATHWAY**

1. New transfer pathways must be developed by consensus of the campus departments/units that offer the program and consent from all participating four-year institutions offering bachelor's degrees in the discipline. The CCN Administrator will coordinate meetings of faculty representatives from institutions offering a bachelor's degree in the discipline of the pathway to develop the initial consensus proposal. CCN Liaisons are charged with coordinating with the chairs/directors of campus departments/units offering bachelor's degrees in the discipline to select faculty representatives to serve on this committee.
2. CCN Liaisons are charged with coordinating with the CCN Administrator, campus curriculum committees, faculty governance and academic officers to ensure that new transfer pathways receive appropriate campus review. New pathways are formally approved once they receive the signature of the Chief Academic Officer of each participating four-year institution. By signing, Chief Academic Officers attest that the proposed pathway has received appropriate campus review, consistent with each campus's collective bargaining agreement and procedures regarding faculty governance and curriculum development.

#### **V. PROCESS FOR REVISION OF A PATHWAY**

1. Each September the Common Course Numbering (CCN) program manager shall coordinate MUS campus pathway changes by inviting revisions to existing pathways.
2. Proposed revisions should include:
  - a. The exact language of the proposed change to the transfer pathway
  - b. A brief justification
3. As required, the CCN Administrator will coordinate meetings of faculty representatives from institutions offering a bachelor's degree in the discipline of the pathway to consider proposed revisions. A consensus revision will be sent to the campus academic governance process for final approval. CCN Liaisons are charged with coordinating with the chairs/directors of campus departments/units offering bachelor's degrees in the discipline to select representatives to serve on a committee. CCN Liaisons are also tasked with ensuring that consensus revisions receive timely and appropriate review in the campus's academic governance process.

## VI. PATHWAY

### Montana University System Transfer Pathways

Discipline: Chemistry

This Montana Transfer Pathway outlines the knowledge and skills that are essential for students to complete during their first two years of study for a major in Chemistry. The coursework described below will meet degree requirements at all Montana University System campuses offering majors in Chemistry. If you complete this coursework successfully, you will be well-positioned to finish your degree with an additional two years of full-time study at your transfer college.

#### Lower-Division Major Requirements

The courses below are specifically related to your field of study and are a part of the requirements for graduation in your major:

- CHMY 141/142 College Chemistry I and lab
- CHMY 143/144 College Chemistry II and lab
- CHMY 221/222 (321/322) Organic Chemistry I and lab
- CHMY 223/224 (323/324) Organic Chemistry II and lab
- PHSX 215/216 (220/221) Physics I ~~(with calculus)~~ and lab
- PHSX 217/218 (222/223) Physics II ~~(with calculus)~~ and lab
- M 171 Calculus I
- M 172 Calculus II
- M 273 Multivariable Calculus

#### *Campus or option specific requirements:*

Students intending to pursue Biochemistry options at Montana State University, Montana Tech, ~~or the University of Montana:~~

- Take STAT 216 rather than M 273; and
- Take either BIOB 260 (preferred) or BIOB 160 prior to transfer as they are prerequisites for Junior year Biochemistry courses
- *IF TRANSFERRING TO MSU-BOZEMAN:* Can take either M 161 or M 171; M 172 is not required
- *IF TRANSFERRING TO MSU-BOZEMAN:* Can take PHSX 205 and PHSX 207 instead of PHSX 220 and PHSX 222

Students who will pursue the B.S. degree in Biochemistry (with or without the Health Professions Option) at The University of Montana:

- Need not take M273
- Should take BIOB 160/161, BIOB 260, and BIOB 272 prior to transfer
- Should take CSCI 100 prior to transfer

Students intending to pursue the University of Montana options in Pharmacology or Forensic Science/Chemistry:

- Need not take M 273
- Should take BIOB 160/~~161~~ and, BIOB 260, and BIOB 272 prior to transfer
- Should take CSCI 100 prior to transfer

Students intending to pursue the University of Montana option in Environmental Chemistry:

- Need not take M 273
- Should take GEO 101/102 and GEO 225 prior to transfer
- Should take CSCI 100 prior to transfer

Students intending to transfer to Montana State University Billings:

- Should take STAT 216 rather than M 273

**General Education Requirements**

To be well positioned to graduate on time after transfer, it is vital you finish your general education core before you transfer.

Students attending Montana University System campuses have three options for transferring general education core requirements: (1) complete all lower-division general education requirements for one specific campus, (2) complete the Montana University System Core transferrable general education curriculum, or (3) obtain an A.A. or A.S. transferrable degree.

**OPTION 1: Complete a specific campus's lower-division general education requirements**

Students complete all lower-division coursework (100- or 200-level courses) in a campus-specific general education program; when transferring, this block of courses substitutes for comparable general education program requirements at any other MUS campus. The student may still be required to take additional general education coursework at the upper-division level at the new campus, but not at the lower-division level. Each MUS campus has designated specific requirements for its [general education program](#).

**OPTION 2: Complete the MUS Core general education curriculum**

Students can complete a set of courses known as the [MUS Core transferrable gen ed curriculum](#) (MUS Core), consisting of 30 lower-division credits distributed across six categories.

Each campus in the MUS has identified a set of classes that will satisfy the MUS Core requirements. As with Option 1, students may still be required to take additional general education coursework at the upper-division level.

***This option comes with an important bonus.*** *Students who have not completed the entire 30-credit MUS Core general education curriculum may still use it to transfer if they have completed at least 20 of the required credits. If the student has earned at least 20 MUS Core credits, they can work with their advisor to determine whether they will complete the remaining MUS Core requirements at the new campus or if they will roll their 20 MUS Core credits into the new campus' general education program. If the student has earned less than 20 MUS Core credits, they must complete the new campus' general education program, but the MUS Core courses will be reviewed for possible transfer credit towards the new campus' general education program.*

### **OPTION 3: Obtain an AA or AS degree**

An Associate of Arts (A.A.) or an Associate of Science (A.S.) degree indicates that students have completed the general education program of their specific two-year campus—thus satisfying Option 1. These credentials are often referred to as “[transfer degrees](#)” for this reason. Some specialized associate’s degrees, such as the Associate of Science in Nursing, may not include the necessary number of general education credits to meet the expectations stated in Option 3.

**VII. AGREEMENT**

The designated institutional signatories attest that this transfer pathway has been appropriately reviewed under the academic governance procedures of their institution. They also attest that students transferring to their institution who have completed the pathway will be treated in accordance with the objectives and limitation set out in this agreement.

This agreement will remain in force until such time as it is formally modified or terminated.

**University of Montana - Missoula**

By: (Sign) \_\_\_\_\_

Name: (Print) \_\_\_\_\_

Date:

**Montana Technological University**

By: (Sign) \_\_\_\_\_

Name: (Print) \_\_\_\_\_

Date:

**Montana State University - Billings**

By: (Sign) \_\_\_\_\_

Name: (Print) \_\_\_\_\_

Date:

**Montana State University - Bozeman**

By: (Sign) \_\_\_\_\_

Name: (Print) \_\_\_\_\_

Date: